FIRST YEAR RESULTS
UNDER A NEW MEDICARE ADVANTAGE PAYER-HEALTH SYSTEM
VALUE BASED REIMBURSEMENT PARTNERSHIP

Jill Powelson

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Approved by:

George Pink

Sandra Greene

Kristin Reiter

Pam Silberman

Paula Song

ABSTRACT

Jill Powelson: First Year Results Under a New Medicare Advantage Payer-Health System Value Based Reimbursement Partnership
(Under the direction of George Pink)

Value based reimbursement (VBR), defined as payment for the perceived value of services, is increasing as a trend in the U.S. healthcare system. Medicare Advantage contracts often include VBR incentives for providers and facilities to meet quality thresholds and manage the cost of care. In this context, a large healthcare delivery system located in the southeast U.S. (the System) entered a new partnership with an insurance company (the Payer) to form a Medicare Advantage plan with VBR incentives. The purpose of this research is to evaluate the impact of the partnership in its first year, including specific metrics, and to explore the reasons for the impact, including specific tactics. A qualitative case study research method was used, incorporating interviews of key informants from both the System and the Payer.

Metrics for new patients served and hospital utilization performed better than goal. Metrics for PCP network composition, membership, and gain share did not meet goal. The researcher concluded that the one year evaluation period was too brief for a new VBR partnership, due to the number of changes required; a 2-3 year evaluation period would have been more suitable. Themes of value creation for the System beyond the metrics included: learning about VBR, a competitive advantage, learning HCC coding and RAF scores, increasing patient satisfaction, reducing unnecessary PCP visits and improving health care access. The tactics identified as having the greatest impact upon the metrics were Payer employed extensivists and Payer clinics for high risk patients.

Policy implications of this research are: 1) Federal policies should be considered to require improved transparency of data between payers and health systems with common patients. 2) If Medicare Advantage plans demonstrate superior patient outcomes and lower the cost of care, then federal funding to Medicare Advantage should not be reduced. 3) The Center for Medicare and Medicaid Innovation should consider testing payment models which pay primary care providers via capitation to determine if it results in improved approaches to caring for patients with traditional Medicare.

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LIST OF ABBREVIATIONS

ACO	Accountable Care Organization
ALOS	Average Length of Stay
CIN	Clinical Integration Network or Clinically Integrated Network
CMS	Centers for Medicare and Medicaid Services
COPD	Chronic Obstructive Pulmonary Disease
EHR	Electronic Health Record
HCC	Hierarchical Condition Category
HMO	Health Maintenance Organization
MLR	Medical Loss Ratio
PCP	Primary Care Provider
PMPM	Per Member Per Month
PPO	Preferred Provider Organization
RAF	Risk Adjustment Factor
VBR	Value Based Reimbursement

CHAPTER 1: INTRODUCTION

Statement of the Issue

Efforts to reform the U.S. healthcare system and reduce costs have led to an increasing emphasis on reimbursement for the perceived value of services as opposed to the volume of services (Casto & Forrestal Ch. 1, 2013; Casto & Forrestal Ch. 10, 2013; Porter, 2010). This trend is referred to as value based reimbursement (VBR). Synonyms include value based payment or purchasing and outcomes based reimbursement, payment or purchasing. All of them are referred to herein as VBR.

The term "value based" seems to have been in wide use for at least 20 years in a variety of industries as diverse as food service and information technology. In healthcare, the landmark 2001 Institute of Medicine report "Crossing the Quality Chasm" (IOM, 2001) recommended the integration of payment policies with quality improvement but did not yet use the term "value based" or VBR. The earliest date that the use of the term VBR was identified in healthcare literature was 2005 (Neumann, Rosen & Weinstein, 2005), though it may have been in use earlier. Michael Porter, who has written several articles about "value" in healthcare, stated that differing stakeholder goals make defining and measuring value particularly difficult in the healthcare industry. Porter posited that "value is defined as outcomes relative to costs" (2010, p. 2477). The Institute for Healthcare Improvement created the Triple Aim framework to illustrate the necessary balance between cost, quality and the patient experience (Berwick, Nolan & Whittington, 2008). Consistent with Porter's definition and elements of the Triple Aim, VBR contracts between payers and providers and/or facilities are typically designed with incentives to reduce costs and improve quality, including patient outcomes. The Affordable Care Act of 2010 explicitly included VBR and accelerated the national trend away from fee-for-service reimbursement and toward VBR through new incentives and disincentives, including the creation under Medicare of new

payment models (e.g., Accountable Care Organizations or ACOs) and penalties for hospitals which fail to meet federally defined quality thresholds (111th Congress, 2010).

Medicare Advantage contracts between payers, providers and facilities often include VBR incentives to meet quality thresholds and manage the cost of care. All Medicare Advantage plans receive capitated payments from CMS. This capitated payment structure creates greater incentives for Medicare Advantage plans to reduce the volume of services through innovation and the use of care coordination (Ayanian et al., 2013; CMS, 2016; MedPAC, 2016). The Affordable Care Act authorized bonus payments to Medicare Advantage plans for high performance on quality measures (111th Congress, 2010) which further incentivized high quality care. The Medicare Access and CHIP Reauthorization Act or "MACRA" (114th Congress, 2015) included dramatic changes to how providers are paid, beginning in 2019. It contains significant financial incentives for providers to enter into alternative payment models, which are a type of VBR. But MACRA had limited impact on Medicare Advantage plans, because CMS is prohibited from dictating how Medicare Advantage plans reimburse providers of healthcare services. However, MACRA did direct the Secretary of Health and Human Services to study the feasibility of incorporating alternative payment models into Medicare Advantage plans. As a result, CMS surveyed Medicare Advantage organizations and subsequently reported that most of them have already included VBR mechanisms, including alternative payment models, in their provider contracts (CMS, 2016).

Health care providers and facilities are concerned about transitioning from traditional reimbursement to VBR, and with good reason. Success in a VBR environment will require a fundamental shift in how care is delivered in order to deliver high quality at a low cost, and failure could result in reduced financial sustainability (Bhatt, Forster & Welter, 2015; Eggbeer, Sears & Homer, 2015; Kotzbauer & Weeks, 2015; Wagner, 2015).

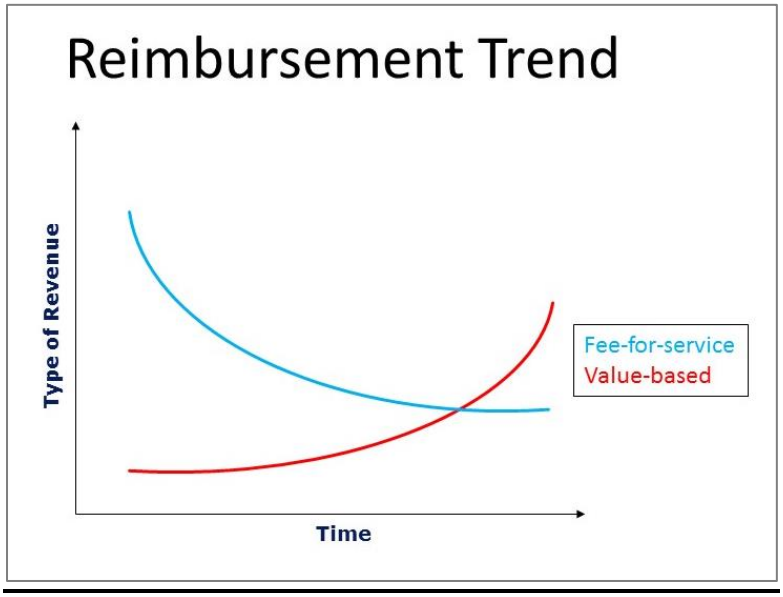
In this context, a large healthcare delivery system located in the southeast U.S. (the System) entered a new VBR partnership with an insurance company (the Payer) with the intent of offering a new Medicare Advantage plan. The System needed an evaluation of the impact of this VBR partnership in its

first year (2015) through a review of key metrics and inquiry into how the impact occurred. The purpose of this dissertation was to evaluate the impact of the VBR partnership, to explore the reasons for the impact, and to develop a plan for change utilizing the results of the research.

Significance of the Research

VBR is being incorporated into federal, state and commercial insurance plans. It is increasing in frequency as a payment mechanism (Fried & Sherer, 2016). Figure 1 was prepared to represent an anticipated downward trend of fee-for-service[1] reimbursement as a proportion of total revenue and an upward trend of VBR. Prior to the point where the lines intersect, healthcare providers are rewarded more for volume. After the lines intersect, they will be rewarded more for reducing cost and improving quality. U.S. healthcare providers like the System will attempt to anticipate *when* the lines will intersect in their locale and to be prepared with strategies to maximize VBR.

Figure 1: General reimbursement trend in the U.S.



[1] Fee-for-service refers to reimbursement from an insurance company to a healthcare provider based on the volume of services rendered.

Fried and Sherer (2016) state that the trend toward VBR is leading to a convergence of payer and provider goals and strategies. They note that more insurers and providers are joining to form ACOs and partnerships, like the System and Payer in this study.

Approximately 31% of Medicare beneficiaries (17 million people) are covered by Medicare Advantage plans (MedPAC, 2016). The proportion of beneficiaries covered by Medicare Advantage has tripled from 2004 to 2016 (KFF, 2016), due in part to the Medicare Modernization Act of 2003 (McGuire, 2011). Given the increasing proportion of Medicare Advantage enrollment relative to traditional Medicare, the System must participate in Medicare Advantage contracts or risk losing market share.

AMGA (AMGA.org) is a national medical group and health system member organization where the researcher is an employee. An AMGA survey of executives at 55 multi-specialty medical groups and 60 healthcare systems (total n=115) showed that respondents expected a 20% increase in Medicare Advantage VBR mechanisms from 2015 to 2017 (Speed, Stempniewicz, & Couch, 2015). Another survey of 626 family medicine physicians by the American Academy of Family Physicians (AAFP) showed that 33% of respondents are actively pursuing value based payment opportunities (AAFP & Humana, 2015).

To strategically manage their organizations given these shifting revenue sources, healthcare systems need to be able to understand the impact of new risk arrangements. However, there is very little in the literature about the impact of VBR contracts on health systems, perhaps because of confidentiality concerns. This research increases our understanding of the impact of VBR contract arrangements under Medicare Advantage and factors that affect the impact.

Background

Medicare Advantage: Privatized Medicare managed care plans were first authorized in 1997 as Part C of Medicare. Other names used to refer to Part C were Medicare+Choice and later, Medicare Advantage. One of the stated aims at the time of the program's creation was to introduce into Medicare the efficiency and cost reduction achieved by managed care payers in the commercial insurance sector (McGuire, Newhouse & Sinaiko, 2011). However, this aim has not entirely been achieved as expected.

While there is some evidence of higher quality under Medicare Advantage compared with traditional Medicare (Ayanian et al., 2013; Basu & Mobley, 2007; Basu & Mobley, 2012; Newhouse & McGuire, 2014), private sector efficiency has not translated into federal cost savings. The cost of the Medicare Advantage program to date has exceeded traditional Medicare. Federal reductions in funding for Medicare Advantage plans are threatened to be phased in over time, to bring the cost of the program closer to traditional Medicare (111th Congress, 2010). This may result in higher beneficiary out-of-pocket costs, lower enrollment in Medicare Advantage plans, or risk-shifting from Medicare Advantage payers to providers (CMS, 2016; KFF, 2016; McGuire, Newhouse & Sinaiko, 2011). Per CMS' (2016) report about Medicare Advantage and alternative payment models:

> *Many MAOs [Medicare Advantage Organizations] reported they would prefer to engage in payment models in which the provider assumes full risk…they often enter into contracts with providers with the intention of moving those providers into more sophisticated risk-based payment arrangements over time, as they become feasible for and acceptable to both parties.* (p. 28)

Health Maintenance Organization (HMO) products predominate in Medicare Advantage; two-thirds of Medicare Advantage policy holders are in HMOs (MedPAC, 2016). Medicare Preferred Provider Organization (PPO) products were not introduced until 2003 (Basu & Mobley, 2007). Basu and Mobley's (2007) analysis of AHRQ Healthcare Cost and Utilization Project data in four states found that Medicare HMO patients were less likely to have preventable hospitalizations than traditional Medicare patients, after adjusting for demographics and illness severity. Odds ratios in the 4 states were 0.83 $p<0.001$; 0.875 $p<0.001$; 0.909 $p<0.05$; 0.982 $p=0.4$. There is some evidence that Medicare Advantage enrollees tend to be healthier than traditional Medicare beneficiaries (Cooper & Trivedi, 2012; Greenwald, Levy & Ingber, 2000; Miller, Decker & Parker, 2016) though this imbalance may have improved after more sophisticated risk adjustment methods were implemented for CMS payments to Medicare Advantage plans in the mid-2000's (Morrisey et al., 2013; Newhouse & McGuire, 2014).

Stakeholders: As stated above, the System is a large integrated healthcare delivery organization located in the southeast U.S. The System employs physicians and owns hospital facilities. It is in a

competitive market with other large healthcare systems. Insurance companies in this area still primarily reimburse a fee for services rendered, or "fee-for-service". Capitated payments are rare in this market. However, elements of VBR are increasingly being introduced into insurance contracts, including Medicare Advantage contracts. The Payer is an insurance company offering Medicare Advantage plans. Both the System and Payer wish to remain blinded in this study.

Partnership & geographic area: The System and Payer entered a partnership and introduced a new Medicare Advantage product. Initially, they have limited the product offering to one county (the County) in the System's market area. They plan to expand to other counties within the state in the future. This study was limited to the County. The System operates one hospital (the Hospital) in the County and has multiple employed physician practices there. The Payer opened its own clinics in the County to supplement the care of high cost patients and patients at high risk of hospitalization or progressing to a more severe stage of disease. The partnership agreement between the System and Payer allows for the alignment of financial incentives, in part through a gain share.

Insurance product: During the study period of calendar year 2015, the VBR partnership had one type of offering: a Medicare Advantage HMO plan including Part A, Part B and a Part D prescription benefit. Patients had to reside within the County in order to be insured through this Medicare Advantage HMO plan.

Metrics: Key metrics for the VBR partnership were provided by the Payer and the System, as shown in Table 1.

Table 1: Metrics for VBR partnership

Metric	Definition
New patients served	Proportion of the VBR plan members who are "new to the System", meaning they haven't had a visit to the System in the 18 months prior to becoming a member of the plan
PCP network composition	Proportion of Primary Care Providers (PCPs) in the plan network who are independent (not employed by the System). Independent PCPs are in the numerator and total network PCPs are in the denominator.
Membership	Number of people enrolled in the plan. This figure is an average of the monthly member counts in 2015. Member count fluctuates month to month due to members reaching age 65 and changes such as enrollment, disenrollment, death, etc. Major changes in membership figures also occur during the annual enrollment period.
Gain share alignment	When the VBR partnership generates positive earnings, a percent of earnings (a gain share) is distributed to the System and to the network PCPs. The percentage distribution is defined in the VBR partnership contract and is not included here in order to preserve confidentiality.
Hospital care delivery	Approximating the impact of programs aimed at reducing hospital utilization through proactive ambulatory initiatives. At the Hospital (the only in-network hospital for the VBR partnership's plan in 2015), metrics for plan members are inpatient admits per 1,000 patients, average length of stay, and readmission rate.

Note: The VBR partnership performance goals and actual 2015 metric performance are shown in Tables 5 and 6 in Chapter 4.

Tactics: The Payer provided a list of major tactics utilized in the VBR partnership.

Table 2: Tactics used in VBR partnership

Tactic	Description
Payer clinics for high risk patients	The Payer operates multiple clinics in the County to provide supplemental outpatient care for patients at high risk of hospitalization or disease progression. Services provided in these clinics are not billed; they are free of charge to patients of the VBR partnership.
Payer employed extensivists	An extensivist is a physician who cares for highly complex patients (i.e., with multiple chronic or acute conditions) in a clinic and/or inpatient setting. The Payer employs extensivists in the County. Their services are not billed; they are provided free of charge to patients of the VBR partnership.
Effective use of technology and data	The Payer uses an enterprise data warehouse to aggregate multiple data sources (including claims data). The Payer also has predictive analytics to risk stratify patients. Data reports are generated regularly and shared with the System and providers.
Primary care capitation	The VBR partnership has a capitated payment mechanism for primary care services. Expenses like prescription drugs, diagnostic tests and lab tests are reimbursed separately from the capitation payment.
Monthly operating committee	Operations leaders representing both the Payer and the System meet monthly to review data and discuss how to improve results.
New financial incentives	Two financial incentives which the System and PCP providers may receive are gain sharing bonuses (also see gain share alignment in Table 1) and a fee for coordinating care with the Payer clinics.
Complementary benefit designs to support the clinical model	The Payer provided a list of benefits which were designed to help achieve desired patient outcomes. They are: free transportation, low cost drug benefit, $0 premium, $ 0 copay for PCP and Payer clinic visits, home monitoring, dental care, vision care, nutritionist, podiatry, free initial assessment, and the extensivists. These benefits are reviewed in more detail in Chapter 4.
Marketing/word of mouth referrals, and other grass roots efforts	Multiple marketing approaches are taken to attract new patients and providers. Two examples are: 1) to attract providers, a grass roots approach is taken to visit provider clinics and to build relationships with providers, and 2) to attract patients during open enrollment cycles, plan representatives offer information about Medicare Advantage in general and the VBR partnership plan in clinic lobbies.

Research Question and Aims

The research question was, “How well did a new VBR Payer-System partnership perform in its first year, and how were its effects realized?”

The research aims were:

Aim 1: To examine the effect of the VBR partnership on key measures of care delivery (hospital admission, readmission, and length of stay) and other metrics mutually agreed upon by the System and Payer.

Aim 2: To delineate stakeholder opinion about how the metrics were realized, including VBR tactics.

The metrics of the VBR partnership examined in Aim 1 were compiled by the Payer and approved by the System. A total of five metrics were available, with goals and 2015 performance (see Tables 5 and 6 in Chapter 4 for additional information). The Payer provided the list of tactics utilized in the VBR partnership and reviewed in Aim 2 (see Table 2 above).

CHAPTER 2: LITERATURE REVIEW

Introduction to the Literature Review Methods

A literature review was conducted to identify already published articles like this study. It was anticipated that the following topics would be well covered in the literature but would not assist in answering the dissertation question: policy pieces about the Medicare Advantage program, including federal policy changes and proposals, and what to expect in the future during a shift from volume based reimbursement to VBR. These two topics were avoided in the literature review. Instead, the literature review was designed to locate publications about the effect of actual Medicare and Medicare Advantage VBR contracts with health systems, facilities and providers. In summary, the literature search question was, *'What has been the effect of VBR contracts on health systems for a Medicare or Medicare Advantage patient population?'* To align with the research aims, the literature was assessed to determine *'How and why did the effects occur?'* A defined search strategy with inclusion/exclusion criteria was formalized and implemented.

Details of payer contractual arrangements are typically held confidential. The Federal Trade Commission, under Title 15 USC §45 (15 C.F.R. §45, 2002), prohibits anti-competitive price fixing activities. This regulation has had the effect of discouraging discussion between healthcare organizations about their payer contracts. This project offered a rare opportunity to review a VBR arrangement with the active cooperation of the insurance company.

Search Strategy

Sources: After consulting with a UNC librarian, ProQuest Health Management database and PubMed were the primary electronic research databases used to identify relevant literature. A few additional articles on the topic were located through other means.

Inclusion criteria: The following inclusion criteria were used in the literature search.

1. Patient populations were primarily older adults who were covered by Medicare or Medicare Advantage.
2. VBR was included.
3. Geography was limited to the United States, as Medicare and Medicare Advantage were the desired populations and VBR may be quite different in international settings because of differences in policy and reimbursement approaches.
4. Only English language articles were included.
5. Only publications in the last 10 years were included, as health policy has changed significantly in the past decade, and earlier publications may not be relevant.
6. Health systems including hospitals and physicians were addressed in the articles. Articles about settings other than health systems (e.g., nursing facilities, community centers, pharmacies) were avoided as they would be less informative about the research question and aims.
7. Case studies were particularly sought, if they met the above inclusion criteria, as they tended to be a good fit with the research aims.

Exclusion criteria: The following exclusion criteria were used in the literature search.

1. Articles about the Medicare Advantage program or VBR on topics *other than* the specific search questions were excluded. Examples of articles excluded were federal policy changes and proposals, opinions, blogs, advice, warnings and predictions.
2. Books were excluded from the search due to not always being peer reviewed and not being as timely given the nature of the rapid changes happening in the VBR space.
3. Conditions such as cancer and major psychiatric conditions were avoided as they are often managed quite differently than chronic diseases associated with a primarily ambulatory, Medicare-age population.

4. Initiatives which were grant funded were excluded, as they were not reimbursed through VBR. However, Medicare demonstration projects were included.

Key words: With assistance from a UNC librarian, the literature search was conducted in ProQuest and PubMed using the following three search concepts in a Boolean approach:

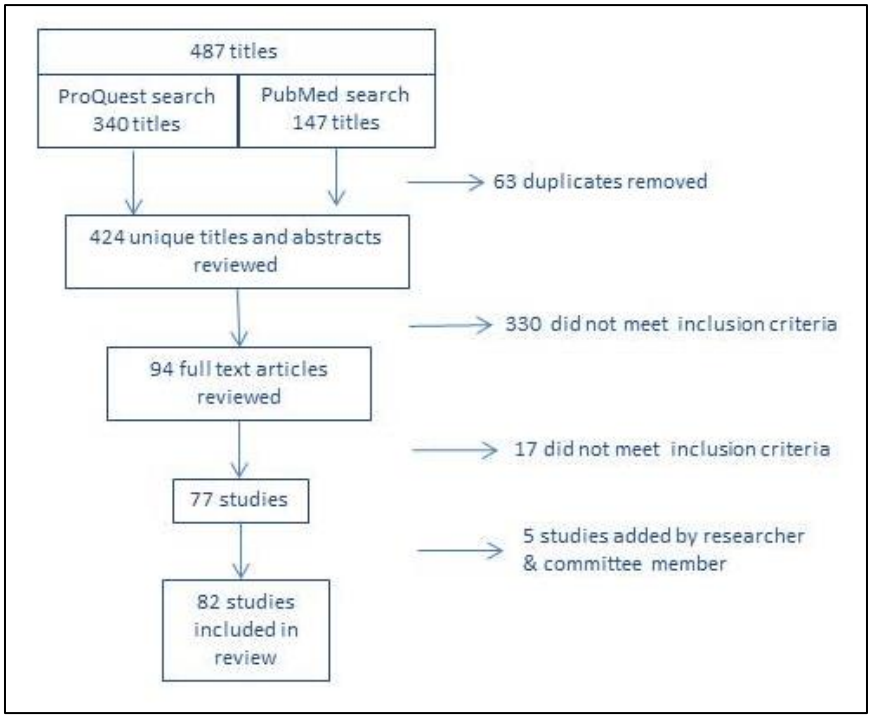
1. Any of the following: value based, value based, outcomes-based, outcome-based, outcomes based, outcome based, risk, payment risk, reimburse, reimbursed, reimbursement, reimbursement mechanisms, reimbursement mechanism, health care costs, costs, economic, hospital economics, hospital financial management, outcome assessment, quality, health care quality, Accountable Care Organization, ACO;
2. And any of the following: Medicare, Medicare Part C, Medicare Advantage, Medicare HMO, Medicare Health Maintenance Organization;
3. And any of the following: organizational case studies, organizational case study, organization case study.

Based on the key word search for titles and abstracts with these search terms, the literature review resulted in 487 titles. 340 titles were from ProQuest and 147 were from PubMed. Titles returned by the search were from peer reviewed publications. Also, five articles were added by the researcher and a committee member, from prior readings on this topic.

Study Selection

Among the 487 titles, 63 were duplicates, leaving 424 unique titles. 94 articles were selected for full review based on a combination of title and abstract review. Of the 94 articles, 17 were excluded based on the inclusion/exclusion criteria, resulting in 77 articles for review. Including the five articles added by others from previous readings, a total of 82 articles were reviewed in detail. Figure 2 is a flow chart summarizing the study selection process and results.

Figure 2: Flow chart for study selection



Results of Literature Review

<u>Articles addressing Aim 1</u>: To examine the effect of the VBR partnership on key metrics such as measures of care delivery (hospital admission, readmission, and length of stay) and other metrics mutually agreed upon by the System and Payer

Information about two of the metrics – gain share alignment and **improved hospital care delivery** – was most common in the articles. Information on three metrics – new patients served, PCP network composition and membership – was not present in very many of the articles. (Results are presented in the same order as the metrics are listed in Table 1.)

<u>New patients served</u>: Kuhn and Lehn (2015) discussed the importance of a metric like this to their VBR Medicare ACO. "Attracting new members is a foundational theme in Banner's long-term strategy and the new defining metric for our future growth." (p. 28) They did not provide any specific historical figures or goals.

<u>PCP network composition</u>: No information about this metric was located in the literature review.

Membership: "Maximize Medicare risk scores" (2006) described a fully capitated plan with 8,000 Medicare Advantage patients. The article stated that "enrollment has been climbing slowly, though not as dramatically as we had hoped" (p. 85). Claffey et al. (2012) started with a pilot of 750 patients in a Medicare Advantage provider-payer partnership and mentioned subsequent growth, but did not provide specifics. Kuhn and Lehn (2015) described 95% growth in a Medicare Advantage provider-payer partnership over a two year period, from 23,000 to 45,000 members. Lee, Dayal and Fontaine (2011) mentioned they had 7,200 covered lives but did not mention growth. Steele et al. (2010) described growth of a VBR Medicare Advantage plan from 3,100 members to 19,300 – more than five-fold – over three years.

Gain share alignment - Incentives: VBR incentives such as bonuses and gain shares were frequently discussed in the articles. Major types of incentives identified in the literature were: per member per month (PMPM) bonus, percentage bonus or percentage increase, and a fixed bonus.

PMPM bonus: Claffey et al. (2012) stated that a PMPM amount (no specifics given) was paid for achieving quality and efficiency goals, in addition to usual fee-for-service payments. Patel, Rathjen and Rubin (2012) discussed outcome based payments ranging from $0.50-9.00 PMPM depending on the level of quality achieved. Brown et al. (2012) described how Medicare paid PMPM fees to providers for care coordination of high risk patients, during a demonstration project.

Percentage bonus or percentage increase: Feder (2011) explained that most doctors were eligible to earn an extra 20-30% above their salary if they met certain quality goals. James (2012) described how 5-10% of healthcare premiums, equal to $100 million, was distributed as shared savings to participating providers. Mechanic et al. (2011) discussed how providers received bonuses up to 10% of the overall medical budget for achieving optimal quality measures. "Maximize Medicare risk scores" (2006) stated that IPA revenue from five payers increased 13% overall in one year as a result of improved HCC coding related to VBR. Vesely (2011) described a bundled payment demonstration project which included a 25% per episode reimbursement gain sharing bonus paid to physicians.

Fixed bonus amount: Dominik (2008) and Couture and Fisher (2009) described one health system's receipt of the top CMS bonus in 2008, equal to $385,000. Hagland (2007) discussed the receipt of $744,000 from the CMS/Premier Hospital Quality Incentive Demonstration project at one hospital. Vesely (2011) described shared savings of $558,000 from a Medicare demonstration project which was passed along to 150 physicians. This innovative program also paid *patients* approximately $300 each for choosing high quality/low cost providers. Coddington (2012) stated that physicians were paid a "significant" bonus (no specifics given) by a payer for achieving quality targets as part of a Medicare Advantage program. Kautter et al. (2007) and Kuhn and Lehn (2015) mentioned shared savings from a Medicare demonstration project and Pioneer ACO, but did not provide any specifics.

Gain share alignment - Cost reductions: In addition to articles describing financial incentives provided by payers, articles were identified which described VBR related cost reductions or improvements in efficiency. Cost reductions were a common strategy of VBR arrangements in the literature. Most articles focused on reducing the utilization of health services, while a few focused on automation of staff tasks. Cost reduction through achieving greater efficiency was another topic.

Reducing healthcare utilization: Bielaszka-DuVernay (2011b) stated that $1,500 per enrolled high risk patient was saved by the second year of their dual eligible, in-home assessment intervention. Bush (2012) implied a cost reduction through "hotspotting" of high cost patients and subsequent interventions. Diamond (2011) discussed a reduction in medical costs of 22% compared to a historic control group, through increased referrals to hospice and reduced inpatient utilization. Feder (2011) described several interventions for high risk patients – comprehensive high risk patient care centers (not payer-run), home care team visits, hospitalist program, and telephone support from nurses and social workers – which saved $2 million annually for every 1,000 high risk health plan members. This equated to $2,000 per high risk plan member. Leaver (2013) discussed cost savings of $971,246 over approximately two years by creating an advanced medical team to provide coordinated outpatient care and home care for frequent emergency department users. Lee, Dayal and Fontaine (2011) reduced

PMPM costs by 35% (equal to $381,630), through risk stratification to identify high risk patients then offering them "medical home" services. Song et al. (2012) described how participation in a new medical home contract lowered costs by an average of 2.8% over two years. Spencer (2014) described how one medical group reduced the cost of care for patients with diabetes by 15% through hospitalists, a hospital based care manager, and home visits for high risk patients. SteelFisher et al. (2011) discussed how they reduced delirium, functional decline and falls for hospitalized older adults, and thus saved $800 per enrolled patient on the cost of care, through daily orienting communication, therapeutic activities, assistance with mobilization, feeding and hydration, and correction of vision and hearing deficits. Tanio and Chen (2013) described how they reduced healthcare utilization in a full risk capitation Medicare Advantage environment through a number of interventions, including increasing the length and frequency of clinic visits, intensive health coaching for high risk patients, and closing gaps in preventive care such as screening for colorectal cancer and glaucoma. Williams (2009) described cost reductions in inpatient utilization through innovative community strategies like community health workers. For every $1.00 spent on community health workers, the health system estimated a $2.50 savings in cost of care.

Automation: "CM enhances telemedicine" (2011) quoted up to 13% savings in costs through automated home monitoring to identify exacerbations in diabetes, COPD, or heart failure, followed by case manager intervention when appropriate. Boast and Potts (2011) reported staff time savings using automated and standardized post-surgical hospital discharge instructions, though no specific amount of savings was stated. Williams (2012) explained how telehealth use in a rural intensive care setting allowed "virtual" intensive care to be provided and thus avoided $30 million in costs over a seven year period, due to avoiding patient transfers to other medical facilities.

Achieving greater efficiency: Birk (2010) reported a 30% reduction in the cost of care on one hospital inpatient unit by applying a waste reduction approach (example: reducing lab errors). Gottlieb et al. (2010) described improvements in the process and speed of cleaning and readying hospital rooms after patient discharge which saved $317,000 annually. Efficiency improvement techniques such as Lean

or Six Sigma were mentioned in many more articles in combination with other interventions or programs.

Improved hospital care delivery: Articles describing the effects of VBR on hospital utilization (admissions, readmissions or length of stay) are grouped below by the impact on admissions or readmissions, and length of stay.

Admission or readmission effects: Many articles described several interventions (not just one) to prevent admission or readmission. Common themes were improving transitions of care, home visits, home monitoring, nursing care management, better discharge instructions and patient education. There is considerable overlap between these interventions, so grouping them into themes was challenging. When possible, they were grouped by what seemed to be the dominant theme in the article.

Improving transitions of care: "Critical path network: transition reduced readmission rate" (2010) described how one hospital reduced their COPD readmit rate by 16% and reduced the readmit rate for combined pneumonia and COPD conditions by 27%, focusing on transitions of care, home visits, COPD classes, increased attention to smoking cessation, a new staff position, and order sets. "How do they do it?" (2009) discussed how Baylor achieved the lowest heart failure readmission rate in the country through a multi-pronged approach including transitions of care, standardized order sets, home visits, an outpatient heart failure clinic, physician champions, and transparent reports. "Team targets readmission" (2010) described how one hospital reduced their heart failure readmission rate from 30% to 17% through more focus on transitions of care, care coordination, and patient and caregiver education including classes about heart failure. "Intervention lowers hospital admissions" (2011) described a 12.8% reduction in 30-day readmit rates vs. 20% reduction in a control group, through use of a transitional care model, new health coach roles, home visits, phone calls, and new patient engagement methods. Aston (2010) discusses how one hospital went from a 32% heart failure readmit rate to 14% in four months, primarily using calls within two days of discharge. Feder (2011) discussed how hospital use declined among high risk patients by 20% over two years due to comprehensive care

centers, home visits, hospitalist program, transitions of care, and telephone support. Kuhn and Lehn (2015) discussed an 8.9% reduction in overall hospital admissions and a 6% reduction in avoidable hospital readmissions primarily due to improved care transitions, during the first year of a Pioneer ACO.

Home visits: Bielaszka-DuVernay (2011b) described how in-home assessments led to a 38% reduction in admissions vs. usual care. "CM in the home" (2011) mentioned a 27% decrease in inpatient admissions due to 5-10 home visits per patient, along with palliative care, end-of-life planning, and other interventions. Cohen et al. (2012) discussed how home visits, palliative care, telephone support, and other strategies resulted in a 19% reduction in hospital days per enrollee and a lower all cause readmission rate of 21.1% compared with fee-for-service Medicare patients at 26.7%. Diamond (2011) described an ACO-style approach by one major payer, including home visits and clinic based care managers, which reduced hospital utilization by 43%. Spencer (2014) discussed a reduction in readmissions from 20% to 12% under an ACO which provided home visits.

Home monitoring: Monitoring of equipment and electronic information signals (usually via computer or telephone) was employed to obtain information about patients who are at home. Emmerson (2006) discussed home monitoring for patients with heart failure which was associated with a reduction in the hospital admission rate to 6.3%, vs. 28% for those without monitoring. "CM enhances telemedicine program" (2011) stated that home monitoring of chronically ill patients for potential exacerbations, paired with case managers, reduced emergency department visits and hospitalizations by about 20%. While other home monitoring programs were described besides these two, none explicitly stated that they reduced admissions or readmissions.

Nursing care management: Huff (2013) discussed a care management program which reduced hospital admissions by 42% for 1,300 patients in a Pioneer ACO. Share and Mason (2012) described 23.8% less hospitalizations under a payer initiated care management program. Steele et al. (2010) described how an advanced medical home model with care managers reduced acute admissions by 28% annually in a Medicare and Medicare Advantage population with chronic diseases, depression and poly-

pharmacy. Claffey et al. (2012) described how, in a population of 750 Medicare Advantage patients, care management and palliative care/end-of-life planning helped to reduce hospital days per 1,000 patients by 50% and led to 45% fewer readmissions. Terrell (2016) described the use of nurse navigators and other interventions to reduce hospitalization by 30% in a small group of poly-chronic patients (n=267). Brown et al. (2012) identified six approaches by care coordinators which were associated with reduced hospitalizations (8-33% reduction across four programs) in high risk patients: frequent in-person meetings with patients, occasional in-person meetings with providers, acting as a communication hub for providers, delivering evidence-based education to patients, prescription management, and timely and comprehensive transitional care post-hospitalization.

Better discharge instructions: "Project participants reaping the benefits" (2006) described interventions including an inpatient RN expediter role and better, more complete discharge instructions, resulting in a 12.09% annual reduction in heart failure readmissions. Boast and Potts (2011) explained how automated discharge instructions helped a 14 day readmit rate to go from 4.1 per 1,000 outpatient procedures to 1.5 per 1,000.

Patient education: Williams (2009) discussed how one health system used case management and patient education to go from approximately 20% heart failure related admissions to approximately 5%, for a group of 800 patients. Patient education was a common theme in many of the articles, in combination with other interventions.

Length of stay effects: Efficiency improvement programs such as Lean were a common theme in reducing length of stay. "Critical path network: interdisciplinary initiative" (2009) described a 2% reduction in length of stay, equating to 18,000 hospital days per year, using Lean techniques to identify barriers to timely discharge and remove them. Bielaszka-DuVernay (2011a) described a length of stay reduction of 10-15% through the application of Lean techniques to several different inpatient processes. Gottlieb et al. (2010) reduced length of stay for chest pain by 0.5 days using physician dashboards, standard order sets and more efficient hospital room turnover processes. Kuhn and Lehn (2015)

discussed a 14.4% reduction in average length of stay during the first year of a Pioneer ACO. MacKenzie et al. (2012) described a decline in mean length of stay from 5.3 days to 4.4 days in 3+ years among difficult to discharge inpatients. Williams (2009) discussed how one health system reduced their average length of stay for a group of 139 hospital "frequent flyers" from 8.2 days to 4.0. Williams (2012) described a rural telehealth initiative which reduced length of stay by 25% in the ICU and other hospital units, through electronic tele-consultations with intensive care and emergency care specialists.

Articles addressing Aim 2: To delineate stakeholder opinion about how the metrics were realized, including VBR tactics

Following is a summary of articles which included VBR tactics like those used by the Payer and System. These were informative for the logic model.

High risk clinics: "How do they do it?" (2009), "Critical path network: project to reduce costs" (2010), Aston (2010), Baldwin (2013), Feder (2011), Leaver (2013), Lee, Dayal and Fontaine (2011), and Tanio and Chen (2013) describe some type of high risk clinic or medical home. None of these were specifically identified as payer run clinics. While some clinics seemed to only have high risk patients, others were a component of a larger clinic. Two were identified as focusing on heart failure ("How do they do it?", 2009; Aston, 2010).

Extensivists and hospitalists: No articles specifically mentioned extensivists, but three articles mentioned aggressive use of employed hospitalists to achieve goals like reduced length of stay or reduced readmission rates (Coddington, 2012; Feder, 2011; Spencer, 2014). None of the providers in these articles seemed to be employed by payers.

Technology and data: References to the importance of technology and data were included in seventeen articles. Themes included various computer based technologies as well as a regional health information exchange, predictive modeling, risk stratification, telemedicine, home monitoring, technology to create and track metrics, and useful reports ("CM enhances telemedicine program", 2011; "Critical path network: project to reduce costs", 2010; "Project participants reaping the benefits", 2006;

"Maximize Medicare risk scores", 2006; "Critical path network: interdisciplinary initiative", 2009; "Transition focus", 2010; Birk, 2010; Feder, 2011; Gottlieb et al., 2010; Hagland, 2007; James, 2012; Lee, Dayal & Fontaine, 2011; Lemon, Oberst & Griffin, 2013; Nugent, 2012; Spencer, 2014; Yesenofski, Kromer & Hitchings, 2015). Eijkenaar, Emmert, Scheppach and Schöffski (2013) discussed that data on performance being fed back to providers can be effective in pay for performance programs.

Primary care capitated payments: "Maximize Medicare risk scores" (2006), Baldwin (2011), Bielaszka-DuVernay (2011b), Brown et al. (2012), Galles and Handmaker (2016), and Tanio and Chen (2013) all included mentions of capitated payments. Tanio and Chen (2013) stated, "Medicare Advantage's capitation model is more favorable to delivery system innovation than traditional fee-for-service Medicare because it eliminates the process of negotiating reimbursement for cost-reducing delivery system innovations." (p. 1079)

New financial incentives: VBR financial incentives were described in 22 articles: Baldwin (2013), Baldwin (2013b), Claffey et al. (2012), Coddington (2012), Couture and Fisher (2009), Diamond (2011), Dominik (2008), Eijkenaar et al. (2013), Feder (2011), Galles and Handmaker (2016), Guglielmo (2008), Hagland (2007), James (2012), Jones et al. (2011), Kautter (2007), Kuhn and Lehn (2015), Mechanic et al. (2011), Nugent (2012), Patel, Rathjen and Rubin (2012), Pumpian (2012), Raskas et al. (2012), Vesely (2011). Incentives were related to meeting cost and quality goals, sharing gains, savings or risk of financial loss with a payer, or to help pay for new interventions. Regarding their payer-provider partnership, Claffey et al. (2012) discussed how the initial VBR agreement helped the health system to "assess the scalability and cost of the care model" as they moved towards adding a shared savings component (p. 2076).

A systematic review of pay for performance programs by Eijkenaar et al. (2013) found that there was little evidence that performance improved as bonuses available to providers were increased. Eijkenaar et al. mentioned that the frequency of incentive payments may be important to the success of pay for performance programs. Within the systematic review, in multiple studies which did not report

an effect of pay for performance programs on patients' health and the cost of care, it was found that providers were not aware of the financial incentives.

Complementary benefit designs: A number of articles contained benefits similar to the VBR partnership's benefits. The following benefits were not found in the literature review: $0 premium, $0 copay, dental, vision, podiatry, initial assessment, and extensivists.

Ride program: "Critical path network: project to reduce costs" (2010) described a Medicare demonstration program with case managers who (among other tasks) arrange transportation to medical appointments. Tanio and Chen (2013) provided van transportation to medical appointments at no charge to their patients, under a fully capitated Medicare Advantage plan.

Drug benefit: Bush (2012) mentioned help for patients with filling their prescriptions. Williams (2009) described a drug subsidy program for low income Medicare beneficiaries, with low or zero copayments, deductibles or premiums, and no drug coverage gap. Williams (2012) described a diabetes care redesign initiative which could save "multiple millions" of pharmaceutical costs by shifting 30% of patients from all brand name drugs to generics.

Home monitoring: "CM enhances telemedicine program" (2011) provided home monitoring of chronically ill patients for potential exacerbations, paired with case manager support. "Critical path network: project to reduce costs" (2010) mentions telemonitoring services for patients with frequent emergency department visits. Emmerson (2006) discussed home telemonitoring visits for patients with heart failure.

Vision: SteelFisher et al. (2011) describes correction of vision deficits during older adults' hospital stays, in order to avoid delirium and functional decline.

Nutrition: Galles and Handmaker (2016) mentioned that dietitians were part of their care coordination team.

Marketing/word of mouth referrals: In the literature review, no articles specifically mentioned marketing or word of mouth referrals as a tactic.

Discussion and Implications for Further Research

The two tables below summarize what is known about VBR from the literature review. In general, the articles in this literature review validated the metrics and VBR tactics being used by the Payer and System, though there were some notable differences. Most notably, the metrics new patients served, PCP network composition, and membership were not well covered in the literature review.

Table 3: Summary of literature review themes for Aim 1: To examine the effect of the VBR partnership on key metrics such as measures of care delivery (hospital admission, readmission, and length of stay) and other metrics mutually agreed upon by the System and Payer

Metric	Themes (if any)	Number of articles	Summary
New patients served		1	Kuhn & Lehn (2015) mentioned this was a "defining metric" (p.28).
PCP network composition		0	No articles located
Membership		5	A wide range of membership figures was found in these five articles, from 750 to 45,000 members. Growth was mentioned as "climbing slowly" ("Maximize Medicare risk scores", 2006, p.85), increasing 95% over a two year period (Kuhn & Lehn, 2015), and increasing more than five-fold over three years (Steele et al., 2010).
Gain share alignment-incentives	PMPM bonus	3	In two articles, per member per month bonuses were paid for achieving quality goals (Claffey et al., 2012; Patel, Rathjen & Rubin, 2012). Patel et al. included the range of $0.50-9.00 PMPM depending on the level of quality. In another article, a PMPM bonus helped to cover the cost of care coordination services (Brown et al., 2012).
Gain share alignment-incentives	Percentage bonus or percentage increase	5	Three of the articles mentioned quality bonuses paid to providers. Figures included were 20-30% of salary, 25% of reimbursement, and 10% of the medical budget (Feder, 2011; Mechanic et al., 2011; Vesely, 2011). James (2012) mentioned 5-10% of healthcare premiums paid as shared savings, and "Maximize Medicare risk scores" (2006) discussed a 13% percent increase in reimbursement.
Gain share alignment-incentives	Fixed bonus amount	7	Six articles discussed one-time bonuses or shared savings from various CMS programs. The amounts ranged from $385,000 to $744,000 (Dominik, 2008; Couture & Fisher, 2009; Hagland, 2007; Vesely, 2011; Kautter et al., 2007; Kuhn & Lehn, 2015). One

Metric	Themes (if any)	Number of articles	Summary
			article mentioned a payer bonus from a Medicare Advantage plan (Coddington, 2012).
Gain share alignment-cost reductions	Improved healthcare utilization	11	Six articles described identifying and intervening with high risk or high cost patients. Where the amount of savings was mentioned, it was $1,500 and 2,000 annually per high risk patient, and 15% and 35%. (Bielaszka-DuVernay, 2011b; Bush, 2012; Feder, 2011; Lee, Dayal and Fontaine,2011; Spencer,2014; Tanio and Chen, 2013) Two articles targeted frequent emergency department or inpatient utilizers for coordinated outpatient care (Leaver, 2013) or community health workers (Williams, 2009). Reported savings were $971,000 savings over two years, and $2.50 for every $1.00 spent, respectively. Three articles described other interventions: referrals to hospice (Diamond, 2011) for a 22% reduction in costs; a primary care medical home (Song et al., 2012) to reduce costs by 2.8% annually; and older adult orientation and engagement while hospitalized (SteelFisher et al., 2011) to reduce costs by $800 per patient per hospitalization.
Gain share alignment-cost reductions	Automation	3	Two articles described telemedicine or telehealth services: for home monitoring, saving up to 13% of costs ("CM enhances telemedicine", 2011) and for virtual care in a rural intensive care, saving $30 million in costs over a seven year period (Williams, 2012). One article described the use of automated discharge instructions (Boast & Potts, 2011).
Gain share alignment-cost reductions	Achieving greater efficiency	2	Articles mentioned: reduction in waste (lab errors), resulting in a 30% reduction in costs on one hospital unit (Birk, 2010); improved hospital room turnover, resulting in $317,000 annual savings (Gottlieb et al., 2010).
Hospital care delivery - admission or readmission effects	Improving transitions of care	7	With improving transitions of care as a common theme, four articles reported an absolute reduction in readmission rates for pneumonia, heart failure, or COPD; reported reductions ranged from 6% to 27% ("Critical path network: transition reduced readmission rate", 2010); "How do they do it?", 2009; "Team targets readmission", 2010; Aston, 2010). Three articles described a reduction in

Metric	Themes (if any)	Number of articles	Summary
			hospital admissions; reduction rates of 8.9% in one year and 20% over 2 years were stated ("Intervention lowers hospital admissions", 2011; Feder, 2011; Kuhn and Lehn, 2015).
Hospital care delivery - admission or readmission effects	Home based care	7	Home visits were often combined with other interventions, such as palliative care. Functions provided during home visits included assessments and care management. Admission reductions mentioned in these articles ranged from 19% to 38% (Bielaszka-DuVernay, 2011b; "CM in the home", 2011; Cohen et al., 2012). One article stated a reduction in hospital utilization of 43% (Diamond, 2011). Another stated an absolute reduction in readmissions of 8% (Spencer, 2014). Monitoring chronically ill patients at home via computer or telephone helped to reduce hospital admissions by 75% compared with a control group (Emmerson, 2006) and by 20% compared with pre-intervention admissions ("CM enhances telemedicine program", 2011).
Hospital care delivery - admission or readmission effects	Nursing care management	6	A nursing care management intervention tended to be targeted to specific sub-populations: polypharmacy/ polychromic (Steele et al., 2010; Terrell, 2016), Medicare/Medicare Advantage (Claffey et al., 2012; Huff, 2013), commercial (Share & Mason, 2012), high risk (Brown et al., 2012). For these smaller sub-populations, admission reductions were reported in the range of 23.8% to 50% annually.
Hospital care delivery - admission or readmission effects	Better discharge instructions	2	Initiatives focused on improving the quality and completeness of instructions provided to patients prior to hospital discharge. Hospital readmissions were reduced by 12.09% annually for patients with heart failure ("Project participants reaping the benefits", 2006). A 14-day readmit rate went from 4.1 to 1.5 per 1,000 procedures (Boast & Potts, 2011).
Hospital care delivery - admission or readmission effects	Patient education	1	Patient education was common in many of the articles and was most often paired with other interventions. In one article, it was the primary intervention to reduce heart failure related admissions by 75% in a small group of patients (Williams, 2009).

Metric	Themes (if any)	Number of articles	Summary
Hospital care delivery -length of stay effects	Lean, other varied approaches	7	Three articles described the use of Lean techniques to identify and removes waste within processes, barriers to timely discharge were identified and removed, helping to achieve a 2% reduction in length of stay (18,000 hospital days per year) ("Critical path network: interdisciplinary initiative", 2009), a 10-15% reduction in length of stay (Bielaszka-DuVernay, 2011a), and a 17% reduction (MacKenzie et al., 2012). Other approaches were more varied (Gottlieb et al., 2010; Kuhn & Lehn, 2015; Williams, 2009; Williams, 2012).

Table 4: Summary of literature review themes for Aim 2: To delineate stakeholder opinion about how the metrics were realized, including VBR tactics

Tactic	Themes (if any)	Number of articles	Summary
High risk clinics	None were payer run Standalone or part of a larger clinic	8	Eight articles describe some type of high risk clinic or medical home, but none of these were specifically identified as payer run clinics. Some were standalone clinics, while others were part of a larger clinic. ("How do they do it?", 2009; "Critical path network: project to reduce costs", 2010; Aston, 2010; Baldwin, 2013; Feder, 2011; Leaver, 2013; Lee, Dayal & Fontaine, 2011; Tanio & Chen, 2013)
Extensivists and hospitalists	No extensivists Hospitalists were employed by health systems	3	No articles specifically mentioned extensivists, but three articles mentioned the use of hospitalists to pursue VBR goals. Hospitalists were employed by health systems, not payers. (Coddington, 2012; Feder, 2011; Spencer, 2014).
Technology and data	Computer systems, health information exchange, predictive modeling, risk stratification, telemedicine, home monitoring, technology to create and track metrics, and useful reports	17	Seventeen articles mentioned the importance of technology and resulting data in their VBR strategies. ("CM enhances telemedicine program", 2011; "Critical path network: project to reduce costs", 2010; "Project participants reaping the benefits", 2006; "Maximize Medicare risk scores", 2006; "Critical path network: interdisciplinary initiative", 2009; "Transition focus",

Tactic	Themes (if any)	Number of articles	Summary
			2010; Birk, 2010; Eijkenaar, Emmert, Scheppach & Schöffski, 2013; Feder, 2011; Gottlieb et al., 2010; Hagland, 2007; James, 2012; Lee, Dayal & Fontaine, 2011; Lemon, Oberst & Griffin, 2013; Nugent, 2012; Spencer, 2014; Yesenofski, Kromer & Hitchings, 2015)
Primary care capitated payments	Helpful source of funds; aided innovation	6	Six articles mentioned primary care capitation. ("Maximize Medicare risk scores", 2006; Baldwin, 2011; Bielaszka-DuVernay, 2011b; Brown et al., 2012; Galles & Handmaker, 2016; Tanio & Chen, 2013)
New financial incentives	Incentives for meeting cost and quality goals; sharing gains, savings or risk of financial loss with a payer; help pay for new interventions	22	VBR financial incentives were discussed in 22 of the articles. Themes are shown in the column at left. (Baldwin, 2013; Baldwin, 2013b; Claffey et al., 2012; Coddington, 2012; Couture & Fisher, 2009; Diamond, 2011; Dominik, 2008; Eijkenaar et al., 2013; Feder, 2011; Galles & Handmaker, 2016; Guglielmo, 2008; Hagland, 2007; James, 2012; Jones et al., 2011; Kautter, 2007; Kuhn & Lehn, 2015; Mechanic et al., 2011; Nugent, 2012; Patel, Rathjen & Rubin, 2012; Pumpian, 2012; Raskas et al., 2012; Vesely, 2011)
Complementary benefit designs	Benefits in the literature: Ride program, drug benefit, home monitoring, vision, nutrition Not found: 0 premium, 0 copay, dental, vision, podiatry, initial assessment, extensivists	9	Nine articles described VBR related benefit designs. Only five of the plan benefits provided by the Payer were located in this literature review (see column at left). ("CM enhances telemedicine program", 2011; "Critical path network: project to reduce costs", 2010; Bush, 2012; Emmerson, 2006; Galles & Handmaker, 2016; SteelFisher et al., 2011; Tanio & Chen, 2013; Williams, 2009; Williams, 2012)
Marketing/word of mouth referrals		0	No articles mentioned this as a VBR tactic.

Some of the metrics and VBR tactics did not appear in the literature. In part, this could be attributed to the literature search and the research being from a health system and provider perspective, rather than from an insurance company perspective. As more health systems and providers enter into payer-like arrangements in the future, more literature may be available from a health system perspective. The metric PCP network composition was not located in this literature review, and the metric new patients served was only found in one article. Regarding VBR tactics, the high risk clinics run by the Payer seem to be somewhat unique; the very few high risk clinics mentioned in the literature did not appear to be operated by insurance companies. The Payer employed extensivists and their role also seem to be unique. Extensivists were not mentioned in the literature, though hospitalists were. In the literature, hospitalists were not stated as employed by payers. The reviewed articles did not include a use of marketing and word of mouth referrals as a VBR tactic.

The metrics which were tracked in various VBR arrangements in the literature generally aligned with those of the VBR partnership. There is considerable variation in how metrics are reported in the literature, particularly with regard to hospital care delivery metrics. For example, a reduction in hospital admissions or readmissions could be reported as a high percentage of a small population, or a small percentage of a large population. The period of time over which a reduction in hospital utilization occurred varied and sometimes included multiple years. Both absolute and relative reductions in hospital utilization were reported. Cost reductions could be reported as a percentage of costs, a per patient cost, or in total dollars. These varying factors make it difficult to compare metric figures found in the literature review directly to the metric figures used in the VBR partnership.

The many articles relating to the gain share alignment metric and the VBR tactic new financial incentives attest to the importance of financial incentives. However, evidence is mixed about whether provider behavior is consistently changed by financial incentives (Eijkenaar et al., 2013). While several articles mentioned innovative cost reduction strategies (Leaver 2013; Lee Dayal & Fontaine 2011; Song et al. 2012; Spencer 2014; SteelFisher 2011; Williams 2009; Williams 2012), it was not always clear that

the cost reduction benefit accrued to *providers* vs. accruing to payers. Given the growing prevalence of VBR and the multiple types of stakeholders involved (including payers, providers/health systems, and patients), additional publications about how reductions in healthcare costs are divided or shared among stakeholders would be beneficial. It was interesting that Vesely (2011) noted a portion of shared savings being distributed to *patients* under a VBR arrangement.

Limitations

VBR is a popular topic in the literature and is mentioned in many articles. The literature review was not intended to systematically evaluate the literature about VBR, but rather to inform the logic model and methods. Therefore, the search may not have identified every relevant article.

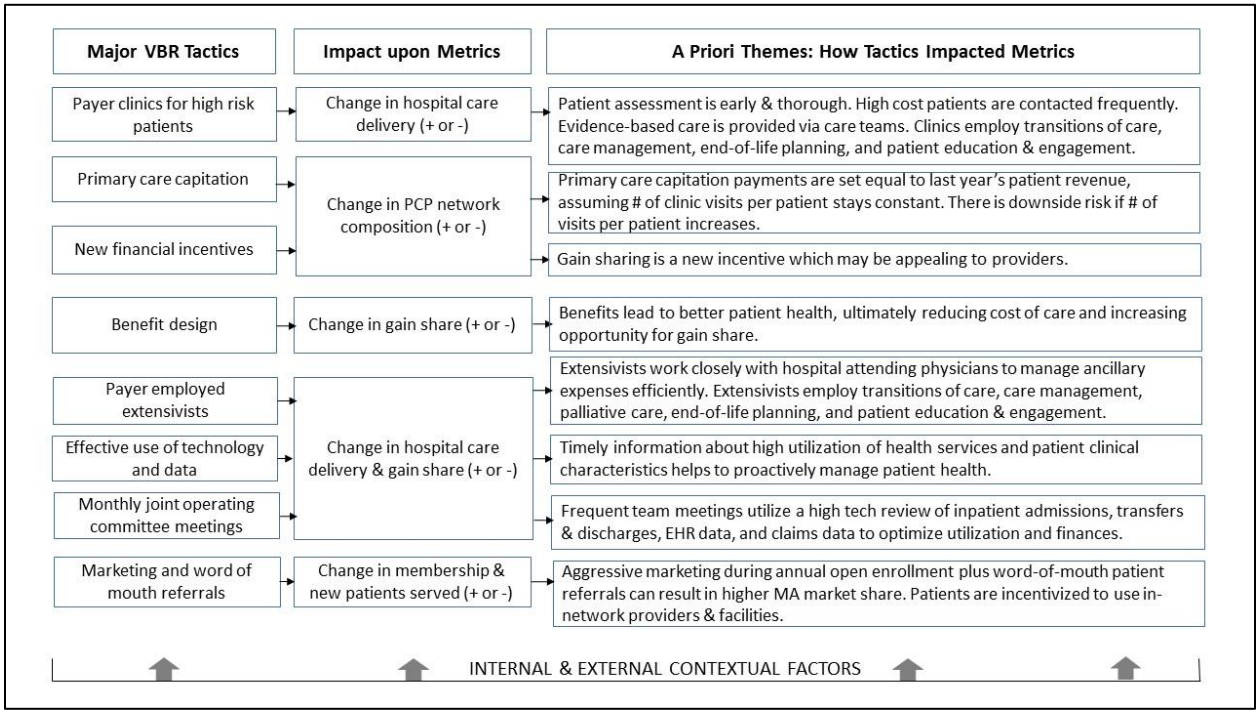
Case studies were sought in this review. Many of the case studies were authored by health system employees writing about their own organization, and the articles could be prone to report primarily positive outcomes and downplay any negative outcomes.

CHAPTER 3: RESEARCH METHODOLOGY

A Priori Logic Model

Based on early discussions with the Payer and System and the findings from the literature review, a logic model was prepared to show the major VBR tactics, the anticipated directional impact of each tactic upon the metrics, and a priori themes about how the tactics worked to impact the metrics. The resulting logic model is shown in Figure 3. (A larger version of Figure 3 is included in Appendix D.)

Figure 3: A priori logic model



On the left side of Figure 3, one can see a list of the major VBR tactics. Descriptions of each tactic and metric are included in Tables 1 and 2 respectively, in Chapter 1. The potential impact of each tactic upon the metrics and a priori "how metrics were realized" were developed from preliminary discussions with the Payer and System and further informed by the literature review.

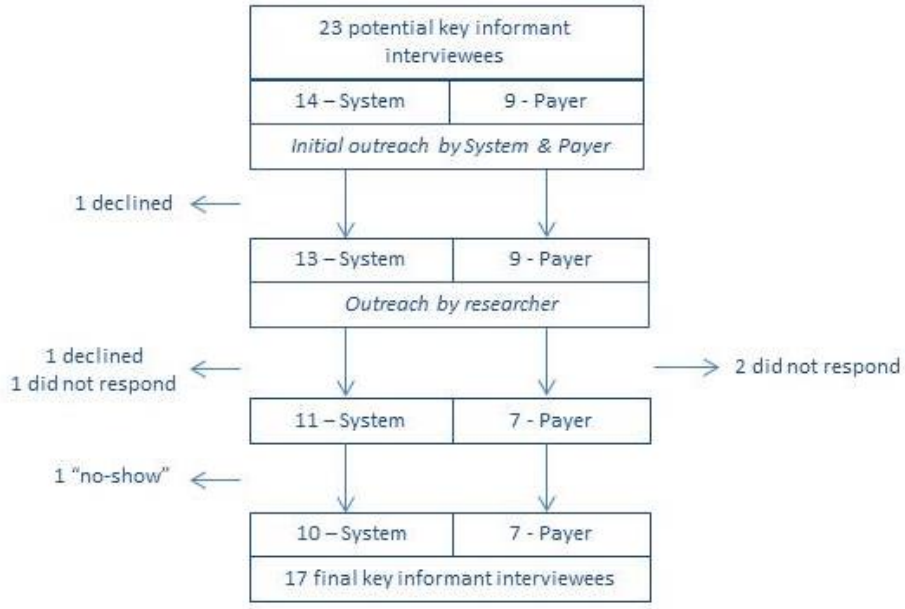
The logic model was updated as more information became available during the research process. An a posteriori logic model is presented in Chapter 5.

Overview of Research Methods

A qualitative case study research method incorporating telephone interviews of key informants (Creswell, 2014; Patton, 2002; Rubin & Rubin, 2012) was used. The key informant interviews were held with System and Payer representatives who have knowledge which assisted in answering the research question and addressing the aims.

A preliminary pool of 23 potential key informant interviewees was identified by the System and Payer. Key contact people at the Payer and System made initial outreach to the potential interviewees to let them know that they would be contacted. Figure 4 shows that the final number was seventeen key informants: ten from the System, including primary care providers, and seven from the Payer.

Figure 4: Flow chart of key informant interviewees



Seventeen one-on-one interviews were held. Each was approximately one hour long, and all were conducted by telephone. A standardized interview guide with semi-structured questions was developed and reviewed by key contacts at the Payer and System for accuracy of the VBR metrics and

tactics. A blinded version of the interview guide was also tested with a fellow student for clarity of the questions. See Appendix C for the blinded version of the interview guide. During outreach to potential key informant interviewees, a briefing sheet (Appendix B) was provided, along with the interview guide. The briefing sheet and interview guide were also attached to electronic calendar invitations sent to each interviewee.

Verbal consent was asked for and received to record each of the 17 interviews. Audio recordings were transcribed verbatim into a word processing program. The audio recordings and transcripts have been stored securely in password protected electronic format until research is complete. There are no printed materials. A code dictionary was created, following the methods described by Saldaña (2016). The code dictionary is included in Appendix F. Codes were designed to represent themes and key information. The transcripts were coded using ATLAS.ti. The coding process was conducted two full times for each transcript, plus additional spot checks, in order to refine the code assignments. The researcher was the sole coder. The names of individuals who were interviewed have been kept confidential, and a code key has been utilized to enhance confidentiality. Significant quotes have been identified in the transcripts, and none of these are identifiable as to the interviewee.

IRB Approval

This research proposal was reviewed by the Office of Human Research Ethics at the University of North Carolina at Chapel Hill and determined to be exempt.

Research Delimitations

This research is limited to one insurance plan and one health system. The geographic catchment area is one county in the southeastern United States. The metrics under evaluation were limited to those for which figures were provided by the VBR partnership.

Research Limitations

The research method used in this study – a qualitative evaluation in a real world setting – cannot demonstrate causality. There is no control population, multiple interventions are being pursued

simultaneously, and other factors are not held constant in a real world setting. Risk adjustment of the VBR population was not attempted due to the complexity of such an undertaking, the lack of detailed patient-level information, and the absence of a comparator group. Therefore, the metric results described in this study may have been due to factors other than the VBR tactics.

Figures provided by the Payer and approved by the System were relied upon. Neither the System nor the Payer possessed pre-intervention data specific to the VBR patients. Therefore, it was not possible to make a pre-VBR/post-VBR comparison except through the use of regional CMS benchmarks. Only data for 2015 was provided to the researcher.

Qualitative research has inherent limitations. The sample size is small by necessity, as it is not feasible to interview large numbers of people and analyze the results. The researcher was an active participant in the interviews, and the researcher's perspective influenced how questions were asked and therefore how they were answered. Any discussion of what occurred after 2015 was based on key informants' perspectives or opinions, as data after 2015 was not provided to the researcher.

CHAPTER 4: RESEARCH RESULTS

Research Aim 1: Effect of VBR Partnership on Key Metrics

Key metrics of the new VBR contract in 2015 were compiled by the Payer and approved by the System. A total of five metrics were available: new patients served, PCP network composition, membership, gain share alignment and hospital care delivery. The metric hospital care delivery was further subdivided into three components: inpatient admits per 1,000 patients, inpatient average length of stay, and percentage of inpatient readmissions.

Ultimately, financial performance of the VBR partnership was not able to be included here as a metric because the two parties did not reach agreement on the financial performance figures. However, the metric gain share alignment is included in this study, and the distribution of a gain share bonus depends upon financial profitability. Therefore, an indirect measure of financial performance is included via the gain share metric.

Tables 5 and 6 contain the performance of the metrics compared with goals. These two tables were provided to each interviewee as part of the pre-interview briefing sheet (see Appendix B).

Table 5: Performance of metrics vs. goals

Metric	2015 Goals[1]	Description	Performance
New patients served	Significant % of members are "new to System"	Payer members that are "new to System", meaning they haven't had a visit to System in the 18 months prior to becoming a member of Payer	Exceeded goal
PCP network composition	Significant % of network PCPs are independent PCPs	Gain participation from independent PCPs to (1) build relationships with those PCPs with the goal of involving them with other value based care programs and (2) ensure a broader network across the County to drive PCP access and improve attractiveness of the product	Did not meet goal
Membership	x members (# redacted for blinding)	Achieve annual membership goal Shared responsibility of Payer, System and another payer[2]	Did not meet goal
Gain share alignment	N/A	Create gain shares with the PCPs and Hospital, allowing them to participate in the benefits from practicing value based care over time	Gain share in place

[1] The parties evaluate goals annually, and goals in future years may be different.
[2] Another payer is delegated for sales and marketing in the County on behalf of the VBR partnership.

Table 6: Hospital care delivery metrics - performance vs. benchmarks

	2015 FFS Benchmarks (Regional) @ 1.0 Risk Score	Payer 2015 Performance*
Inpatient Admits per 1,000 Patients	236	Lower than benchmark
Inpatient Average Length of Stay	5.3	Lower than benchmark**
Inpatient Readmission Rate %	16.1%***	Lower than benchmark
**Based on 2015 dates of service claims data*		
*** LOS at 1 Hospital where Payer had the ability to influence hospitalist processes and inpatient LOS*		
****Data based on all 2015 FFS & Medicare Advantage Data; not risk adjusted*		
Note: There is one System Hospital in the County.		

Two of the metrics exceeded the 2015 goals or comparative benchmarks. They were new patients served and hospital care delivery. Hospital care delivery exceeded the comparative benchmark on each of its three components. Three other metrics did not meet the 2015 goals: PCP network composition, membership and gain share alignment. Further, most of the key informants felt that the

VBR partnership was advantageous overall to the System in 2015. Each of these metrics is discussed in detail below.

Metric: New patients served: This metric measures the proportion of plan members who are new to the System. In this metric, a new patient is defined as someone who has not been seen by the System in the 18 months prior to becoming a member of the VBR partnership's Medicare Advantage plan.

Goal & performance: The goal was set at a significant percentage of members being new to the System, and it was exceeded.

Reaction to metric results: The Payer key informants celebrated exceeding this goal. An example is the following comment:

> *"…I think the fact that we were able to bring net new members into a System where a lot of their utilization was predominantly going to [System], and these are members who had not previously used a [System] facility in the last 18 months, is evidence that we were able to deliver on a key component of the value proposition in terms of a market share shift."* (Payer comment)

For the most part, the System interviewees also responded positively to this metric result.

Other comments-Network: This Medicare Advantage HMO plan utilizes a narrow network of providers, with higher member costs for going out of network. Only one hospital was in network in the County, and it was the System's hospital. Patients are strongly incentivized to use the Hospital and to go to providers who are part of the plan's narrow network. This network feature was mentioned by two key informants as a contributing factor to meeting this particular metric:

> *"…so for [the new patients served metric], I think the biggest thing that affected [it] was just the narrow network and [System] being the primary provider."* (Payer comment)

> *"Because our specialist providers are so heavily [name of System network], I think it definitely helps drive that particular [metric]."* (Payer comment)

Metric: PCP network composition: This measures the proportion of plan network PCPs who are "independent", i.e., not employed by the System. The Payer expressed that their intent is to gain participation from independent PCPs, to build relationships with those PCPs with the goal of involving

them with other value based care programs, and ensure a broader network across the County to drive PCP access and improve attractiveness of the VBR partnership's Medicare Advantage product.

Goal & performance: The 2015 goal was that a significant percentage of network PCPs would be independent. The actual network composition did not meet the goal.

Reaction to metric results: While this goal was not met, a System key informant did note that through this VBR partnership, they made progress compared with where they started:

> *"So although they didn't meet the goal initially, you know we really weren't working in a meaningful way around value based care with that many independent PCPs prior to the partnership."* (System comment)

One System key informant pointed out that there are two large PCP groups in the County which are missing from the network, which makes it challenging to meet this metric goal as well as the membership metric goal.

Other comments-CIN: It arose in the interviews that the System began a clinical integration network (CIN)[2] after the VBR partnership began. Some interviewees commented about differences between the VBR network and the CIN network. There is an overlap between the two networks, and there was commentary about the Payer's vs. the System's approach to network development.

> *"…even the network, they [Payer] directly contracted with those independent primary care docs. We created a clinically integrated network. That was the governance framework for making decisions about redesigning care, how to improve quality of care, and that kind of thing, that we created, to work directly with our docs. Well, they [Payer] didn't contract with our [System] CIN, they kept contracting, having individualized contracts with these docs, and so it was like their relationship with docs wasn't our relationship with those docs in the context of the CIN."* (System comment)

The Payer's contrasting viewpoint was that they needed to contract with the independent practices in order to achieve network adequacy.

> *"We have not been involved with the clinically integrated network at all, and it's really a lost opportunity because [the VBR partnership] came before this [name of CIN]…So when it first started out, our network was pretty much the backbone of the network with [System] and its*

[2] A clinical integration network (CIN) is a group of health care providers linked together by contract and often affiliated with a health system. The network may include both independent and employed health care providers. Members of the network are typically incentivized toward common quality and cost of care goals.

networks, but [System] doesn't have all of their providers that would fill network adequacy, so it kind of just ended up being independent practices that can be part of that network to meet adequacy." (Payer comment)

Metric: Membership: This metric is the count of members enrolled in the specific Medicare Advantage plan which is linked with the VBR partnership. This figure is an average of the monthly member counts in 2015. Member count fluctuates month to month due to members reaching age 65 and changes such as enrollment, disenrollment, death, etc. Major changes in membership figures also occur during the annual enrollment period.

Goal & performance: A goal was set for the initial year (2015) of the new plan, and it was not met. This metric is described as a shared responsibility of the Payer, a local administrator delegated for sales and marketing in the County on behalf of the VBR partnership, and the System. Brokers are another stakeholder group involved in the sales and enrollment process.

Reaction to metric results

HMO vs. PPO: Medicare Advantage HMO plans are common across the U.S.; two-thirds of Medicare Advantage policy holders are in HMOs (MedPAC, 2016). However, Medicare Advantage participation varies widely by state and county. Several key informants mentioned that this geographic area was a difficult location in which to market an HMO plan, and that made it challenging to recruit plan members. One System interviewee summed up this difficulty as follows:

"…we've never really been a strong HMO market in [name of state]." (System comment)

Payer interviewees had informative comments on this topic as well:

"It's the seniors who have a lot of money, who have a secondary insurance and are not Medicaid-eligible, who didn't like our plan because it requires prior authorization ... they like their PPO broad network plan. So, those types of folks weren't as happy, I think, or satisfied or weren't selecting our plan." (Payer comment)

"This is an immature Medicare market, so people really don't understand an HMO pre-authorization. "Why do I have to do that? I don't want to do that. I want a PPO, where I don't have to get authorization." (Payer comment)

One interviewee from the Payer commented that progress is being made on how managed care products like HMOs are viewed in the County:

> *"We didn't meet the goal, certainly the goal for membership, yet, but the market is now changing in that managed care is not looked at with the same antipathy in the market."* (Payer comment)

Sales & Marketing: There were several comments from both the System and the Payer about challenges with the sales and marketing process for the VBR partnership's Medicare Advantage plan. A third party was delegated sales and marketing responsibilities on behalf of the VBR partnership, and there were some complaints about the third party's effectiveness. Also, brokers are very involved in marketing and sales of Medicare Advantage policies, and there were interview comments about the brokers not being fully aware of all of the distinguishing features and benefits of the VBR partnership's plan. Some interviewees thought that lack of awareness about plan benefits may have led to missing the goals for the membership and PCP network composition metrics. As sales and marketing is a designated VBR tactic for this study, these themes are covered in more detail in Table 18 below.

Other comments: Two Payer interviewees offered their insights on the effect of the VBR partnership narrow network upon member enrollment.

> *"I would say that when a member walks in to choose a plan, the first thing they ask is, "Is my doctor in-network?" Both a primary care doctor, and depending on their disease, their specialist. "Are they in-network?" That's the first thing they ask. The second thing they look at is, "Are my drugs covered?" What's the formulary? Third thing they ask is what's the premium, and is there a copay? I think that of those three, the first one, a network, the first year, was very narrow. We had primarily [System] docs. We had some independents, but not a lot, and we had [System] Hospital…That was probably the thing that ... If anything held us back, it was probably what held us back the most."* (Payer comment)

Some key informants noted that there was further enrollment growth in later years. Two key informants noted that growth in membership brings other challenges.

> *"I think, as you scale your very personal, high touch, kind of TLC that we're giving patients at home, in the care centers, by the remote monitoring…all of that. As you scale, you have to figure out how to maintain that high touch…Growth fixes a lot of things, but I think as the growth happens, there are growing pains. Meaning, more sick patients, and figuring out how to scale all the pieces to the size they need to be."* (Payer comment)

"For the [current number of] people, this may be effective, but if they get up to 10,000 then I'm not sure … they may need to add to this, depending on the types of patients they're seeing." (System comment)

Metric: Gain share alignment: Gain share is the VBR partnership's term for a financial incentive or bonus equal to a percentage of any positive operating margin (excess revenue after expenses are deducted) resulting from the partnership. Medical expenses include services provided in inpatient and outpatient settings, drug costs, the Payer clinics, extensivists, and other costs related to member benefits and operations within the County. When the VBR partnership generates positive earnings, a gain share is distributed to the System and to the network PCPs. The percentage distribution is defined in the VBR partnership contract and is not included here in order to preserve confidentiality. The Payer conveyed that their intent is to "create gain shares with the PCPs and the Hospital, allowing them to participate in the benefits from practicing value based care over time."

Goal & performance: There was no stated goal for this metric. There was no gain share distributed in 2015 as the VBR partnership was not profitable.

The gain share provides an upside opportunity or bonus if there is a positive margin. A Payer key informant offered a comment about this:

"The intent behind the gain share was always to keep us fully aligned in order [for the System] to earn into some of the upside." (Payer comment)

Reaction to metric results: While several interviewees expressed disappointment about not realizing a gain share, some representing both the Payer and the System said that it was not expected in year one of the VBR partnership. Relevant key informant comments are shown below:

"…it's not unusual for the gain share to take two to three years to start kicking in, typically three, especially if the RAF[3] is as low as it was in this market." (Payer comment)

"…there is no gain share actual distribution, and I think part of that is a function of this being a new venture so it takes a few years, really, to start hitting on all cylinders and to be operating effectively, and it takes time for providers to learn competencies and how they need to practice differently to be successful." (System comment)

[3] Primarily used by the Centers for Medicare and Medicaid Services, Risk Adjustment Factor (RAF) is a method of adapting reimbursement to account for the number and severity of patient diseases or conditions. (CMS, 2017)

Metric: Hospital care delivery: Three measures of hospital care delivery were included in the metrics, for the one System Hospital which is located in the County: inpatient admits per 1,000 patients, inpatient average length of stay, and inpatient readmission rate. Comparative data from the Payer was compiled in 2017 based on adjudicated claims with calendar year 2015 dates of service. For the baseline or pre-2015 figures, hospital utilization data for the specific plan members was not available. Therefore, the parties agreed to compare actual data for the VBR partnership to 2015 Medicare fee-for-service regional benchmarks at a 1.0 (average) risk score.

Goals & performance: As shown in Table 6, actual 2015 performance was better than same year CMS fee-for-service benchmarks on all three measures.

Some interviewees commented on other Hospital initiatives – apart from the VBR tactics – to reduce length of stay and readmission rates, which may have also had an impact on the metrics for these patients.

> *"I think that there may have been some [other] efforts at [Hospital] around that time to improve length of stay... And that could have had an impact on the length of stay, but 2015 might have been a little early for that kind of phenomenon to really be hitting..."* (System comment)

> *"It's hard to say if that's all because of [Payer]. I think there is a lot more emphasis on keeping patients out of the hospital and really paying attention to length of stay. I think part of it is the better awareness on the part of the providers here, too."* (System comment)

> *"…in general, the System has just been more focused on cost containment and quality measures, and shared savings plans have all kind of rolled out at once the past couple of years."* (System comment)

Reaction to metric results: For the most part, reactions were quite positive to the hospital care delivery metrics.

> *"Admissions exceeded expectations, length of stay exceeds expectations, the readmission rate exceeded expectations. Those things all performed very, very well in year one."* (System comment)

> *"…while we're managing those bed days down and allow [Hospital] and [System] to have other patients and admissions into [the Hospital], especially when having admissions is a problem because everybody is at full capacity. I think that is also a good value proposition for the relationship."* (Payer comment)

One interviewee commented about how they have learned from the Payer about how to improve hospital care delivery, and that it has benefited other populations.

> *"I do know that we've seen a reduction in length of stay at [Hospital]. And I do think that is at least indirectly… attributable to what we've done with [Payer]. And probably some of the things that we've done with [Payer], we've applied to other populations."* (System comment)

A few interviewees expressed alternative explanations for why the hospital care delivery metric was lower in 2015 for the plan members.

> *"They haven't quite reached the membership they want, so their panel size is a little bit smaller than they'd like so, you know, they're able to kind of focus a lot heavier on those patients than if they had a larger panel size. I don't want to say it's easier for them, but, you know, it's a little bit less overall work because the panel is not as big as they want, so they're really able to hone in on the patients they do have."* (System comment)

> *"…another mitigating factor could be that a lot of the independent physicians they're working with were already part of a Medicare ACO for a couple years leading up to this, and so have been exposed to how to think about utilization and cost in care management, so they probably got some lift from some of the independent physicians they were working with at the outset."* (System comment)

There was discussion about the inpatient admits metric being lowered through careful management of inpatient vs. observation status by the Payer employed extensivist physicians.

Other comments–Differences in members' health: Respondents were asked how they thought the health of the patients covered by this specific Medicare Advantage insurance plan compares to other Medicare or Medicare Advantage patients. No one had data to address this question. Some people offered their opinion, while others preferred not to opine. Responses to this interview question are summarized below.

Less Sick/More Sick: No one responded that Payer patients are less sick. Most interviewees thought that Payer patients were sicker or more complicated than other patients. There was consistency between the System and the Payer. A representative sample of quotes follows:

> *"I think that they're more ill, with more co-morbidities…"* (System comment)

> *"As it relates to this product, Medicare Advantage and [Payer]-like products, they're probably sicker than the general population."* (Payer comment)

"Yeah, I think they do come in sicker. I think that, not across the board ... I think that probably 80% of our membership ... well, 60% of our membership, is fairly healthy, given their age, and 40% are fairly sick, and then the ones in our chronic disease management programs are very sick..." (Payer comment)

"I think most likely our patients are a little bit sicker. I've always thought we've had a little bit of adverse selection, probably because of the benefit design, makes it so appealing to people, that's part of it." (Payer comment)

"I obviously don't have any specific numbers, but it seems like sometimes there are more financial difficulties for those [Payer] patients. Potentially more kind of complex social issues. And then not all of them, but like I said, a lot of them might have multiple chronic conditions that historically were not well-controlled. Probably as a result of the social and financial issues that they have." (System comment)

Similar: A few people thought that the Payer's patients were similar to other Medicare/Medicare Advantage patients in the level of health. Two representative key informant quotes follow.

"…I don't think the health varies too tremendously from other Medicare or Medicare Advantage patients. I think that the patients that get into the [Payer] program, there's more of a focus on accurately documenting what all's going on with them." (System comment)

"My response is probably 70% or 80% of our members, and we know this, are healthy. It's just they remember the sicker ones because they're sick, and disproportionately are from a lower to moderate income background. So, they're going to have more difficulty accessing resources." (Payer comment)

Uncertain: Several interviewees were not sure if the Payer's patients had better or worse health than other Medicare/Medicare Advantage patients.

"I just don't have enough data to know that or not." (System comment)

"…you never knew the health of your patients because no one was coding their risk adjustment effectively…So the answer is who knows? I don't… I don't think anybody does. I don't think Medicare does." (Payer comment)

One interviewee offered a cautionary comment about trying to reduce Hospital admission targets every year:

"The goal has been to tighten up the target, inpatient admits year after year, that it should go lower and lower every year. I think there is a point at which you can't get lower, or you're providing bad care." (Payer comment)

Additional Metrics: In some cases, interviewees commented about additional metrics which they felt were important, but which were not included as part of this study. In some cases, the interviewee expressed that they did not know what the metric figures would be if they had been included, while others offered insights into what the figures would be.

Table 7: Additional metrics suggested by interviewees

Themes derived from interviews	Interviewee grouping (X indicates theme identified by groups below)		
	Payer key informants	System key informants	Consistency between Payer & System
Clinical outcomes	X	X	X
Average number of visits	X	X	X
Patient satisfaction & disenrollment rates	X	X	X
Physician satisfaction	X		
Length of stay in SNF		X	
Specialist referrals	X		

Clinical outcomes: Interviewees commented on how the metrics which were the subject of this study did not include data on care quality and should.

> *"I think that there are a lot of metrics that are not on that sheet that these things probably provide benefit to, looking at like just blood pressure control, diabetes control, getting diabetic eye checks so that less blindness, less vision changes, also psychological benefits like they are now on anti-depressants, lower PHQ-9 scores."* (System comment)

> *"There's other metrics, health metrics. A1c's have come down. Blood pressures have come down in our population. There's a lot of other clinical metrics…"* (Payer comment)

One provider noted that s/he receives quality measure data on patients but it is not broken out by payer, so s/he cannot tell if the VBR partnership patients in their practice are doing better.

> *"I think another metric to think about quality outcomes... I would have liked to have seen numbers for my specific [Payer] patients. I think that would have been interesting and kind of allowed more buy-in to the fact that, yes, [Payer] is positively impacting my specific patient in this specific way."* (System comment)

Based on comments during the interviews, it seems that data on quality measures for these patients is provided to the System and participating providers.

Average number of visits: Per the Payer, one of the value propositions for the VBR partnership is that the Payer clinics handle initial medical and psychosocial assessments and regular chronic care/prevention for high risk patients, thereby reducing the number of visits which PCPs have with high risk patients. This is expected to free appointment slots for other patients, including new patients, and to reduce the average number of visits overall. Data on the average number of visits was not available for this study. One provider stated that s/he could not tell a difference in their overall clinic capacity after the VBR partnership began. In contrast, other key informants from both the System and Payer stated that they expect such a metric would show a positive effect from the VBR partnership.

> *"That may be a good data point for us to gather because I do think there's been a significant reduction, if not a significant, there has been some level of reduction. If you look specifically at the providers that have engaged in the [Payer] network, I think there has been an actual reduction in the visits per patient, per PCP, per year."* (System comment)

> *"I think we have alleviated like 20 or 30 percent of the visits. We've taken them out of the practices and they are coming to the [Payer clinic]."* (Payer comment)

Patient satisfaction & disenrollment rates: A number of people talked about patient satisfaction in general, and some called it out specifically as a metric which they would like to see. No interviewees had patient satisfaction figures for these patients. The Payer contracts with another insurance company licensed to handle many activities in the County, and the contracted insurance plan measures patient satisfaction. Payer key informants mentioned that they tracked disenrollment rates, which may be a proxy for dissatisfaction, but these figures were not available.

One System key informant commented on patient satisfaction with extensivist services:

> *"Well, again, going back to the extensivists, I think in select cases, there is a positive impact on patient satisfaction when patients see a provider who they know, from the outpatient setting in the hospital, which is becoming more uncommon these days. I think that is helpful. You know, it's hard to really measure that with such small numbers. You know, it has helped at times, especially when it comes to making difficult medical decisions when the patient sees a physician that they actually recognize and have had primary care visits with before, as opposed to a hospitalist who they're meeting for the first time."* (System comment)

Publicly available patient satisfaction star ratings for the Payer's plan were retrieved. The total member experience rating with the health plan was 4 stars out of 5.[4]

Physician satisfaction: Data were not available on physician satisfaction. This is an important metric to consider adding and is discussed further in Chapter 5. One key informant commented on how the Payer tries to enhance physician satisfaction.

> *"…over time, it leads to a lot less work at the primary care physician's office because the [Payer] team has taken care of many of these issues. That leads to a higher level of physician satisfaction. Now that's over time as I said because nothing works right at the beginning no matter how hard you try. And when you go into a new area, you can do 99 things right, but the 100th thing that doesn't go right is the poster child for everything."* (Payer comment)

Length of stay in skilled nursing facilities: The System owns skilled nursing beds, and a key informant felt that it would be helpful to track trends in length of stay for skilled nursing beds.

> *"Another metric that's not on here, but one that might be worth considering as part of your work, is looking at, specifically, length of stay in skilled nursing facilities. And [Payer] has been very successful in decreasing that length of stay, because they're more tightly managing their patients, and working with those facilities."* (System comment)

Specialist referrals: One advantage of this narrow network is that the System can coordinate care with its specialists. One key informant commented that specialist referrals should be added to the list of metrics.

> *"One thing that, I think, is not on here that … not only was there a lot of new [patients served] for [System] on the primary care side, but there was a huge amount of [new patients served] on the specialty side… almost all of our referrals to most specialties went to [System]."* (Payer comment)

Created value in ways not reflected by the metrics: Respondents were also asked whether the VBR tactics created value in other ways not shown by the metrics. One interviewee commented generally on value beyond the metrics:

> *"I am a believer of this and I think hopefully others will reiterate this over the course of your various conversations. I think there's value created for both [Payer] and [System] outside of ... metrics on paper here."* (Payer comment)

[4] Star ratings are standardized insurance plan scores, ranging from 1-5. The star ratings for the VBR partnership's plan were obtained from http://www.medicarehelp.org/2018-medicare-advantage/, accessed 25 February 2018.

There were a few comments about learning which occurred through the VBR partnership. The areas of learning included how to take on risk contracts, coding and documentation, population health, and Medicare Advantage generally.

> *"So for us, actually, we learned a lot from [Payer]…I think it's been a great learning experience for us, because we've learned how to think about what it would be like to take on risk. We've learned to think in terms of our per member per month costs, around physician costs and hospital costs and post-acute care costs and that kind of thing, so the reports have sensitized us to what we would need to do if we were taking on risk with a much bigger population, sensitized us to how to quickly identify patients who are at risk of getting sicker and being hospitalized, and how to try to prevent that and such. We didn't really get into it primarily, frankly, with them for financial reasons. We really got into it because we wanted to learn from them how you would re-think through how you deliver care if you were taking on risk for the cost of care, even though we weren't taking on risk."* (System comment)

> *"The learning across the board was very good. The stuff we learned from a population health standpoint, from a Medicare Advantage standpoint, that was our first experience doing any of that. The learnings were very, very good and very helpful for us."* (System comment)

Two people mentioned that the VBR partnership helped the System when it began building a CIN later.

> *"I firmly believe that the relationships that we developed that summer and that fall, independent providers in [County name], set the foundation for the [CIN name]…I don't know that we would've been able… to build our CIN without the work we did with [Payer] to build that network. I just don't think we would be as far along."* (System comment)

> *"I think it has helped us with our clinically integrated network efforts that physicians that were outside kind of looking in or thinking where they'd want to partner, this is kind of an innovative experiment in our market that I have to believe attracted some folks to want to work and align with us more than some of our competition. So yeah, overall I think it's been a good thing."* (System comment)

Table 8 below includes a summary of the themes about ways in which value was created by the VBR partnership, apart from what the metrics reflect. At least two key informants mentioned a theme in order for it to be included in the table. All but two of the themes were consistent between the Payer and the System.

Table 8: VBR partnership creates value in ways not reflected by the metrics

Themes derived from interviews	Interviewee grouping (X indicates theme identified by groups below)		
	Payer key informants	System key informants	Consistency between Payer & System
Learned about VBR, risk stratification, and/or population health	X	X	X
Helped to build clinical integration network	X	X	X
Differentiated itself in the market	X	X	X
Payer clinics improved ambulatory access, possibly reduced emergency department usage	X	X	X
Learned HCC coding/RAF scores[5]	X	X	X
Increased patient/member satisfaction	X	X	X
Reduced PCP visits by seeing patients at Payer clinics	X	X	X
Extensivists created value by being on site at Hospital, via face to face conversations with attending physicians and patients and their families, improved patient satisfaction		X	
Quality measures are improved	X		

Gray shading indicates themes judged to be most important based on the key informant's knowledge of the topic and the strength of their opinion.

Overall advantage to System of VBR partnership: Key informants were asked if they thought that the VBR partnership was advantageous overall to the System in 2015. Most of the key informants provided an affirmative response to this question. A sample of quotes from the key informants is included below.

> *"Our organization, at that time, we needed something like this. I would call it an experiment. We needed an experiment like this that was relevant to what was going on in the industry. We didn't really have any other opportunities like this on our plate. And to have a company with the background and experience that [Payer] brought to the table, I think was very fortunate for us."* (System comment)

> *"I think their primary objectives were to begin to wade into value based care…. I think we've demonstrated our ability to help them do that…So I think it has been advantageous both from an operational standpoint, but a strategic standpoint as well."* (Payer comment)

> *"I think it's done what it was supposed to do, which was, as stated by them in '14 – It was to get into value based care without taking much risk, and they didn't really have to take any risk. I*

[5] Hierarchical Condition Categories (HCC) are part of a risk adjustment model used by the Centers for Medicare and Medicaid Services, HCC conditions generate a Risk Adjustment Factor (RAF) score which attempts to account for patient illness in calculating reimbursement. (CMS, 2017)

think that's what happened... They got to see how value based care works. They've taken and copied a lot of what we've done and implemented it. So I think it's done what it was supposed to do." (Payer comment)

A few people responded that they did not think that the VBR partnership was advantageous to the System in 2015. The reasons given were that it did not achieve the financial or membership targets, though it required a fair amount of work.

"…all of this has been a lot of work for us for a comparatively small amount of patients… out of the thousands and thousands that we admit and discharge every year." (System comment)

A few key informants did not answer the interview question with an affirmative or a negative. Examples were:

"I think in 2015 no one had a good grasp of how this is working, what the responsibilities are, what the patient needs to do, what we need to do. I think now in 2017 it's very advantageous for both groups, but I think it was a little bit of a rocky start to start with." (System comment)

"It is hard for us to see X number of patients a day to pay the bills and then also have that value based care where we want to try to take care as much as we can here in the clinic to keep them out of the hospitals." (System comment)

One Payer key informant mentioned how the influx of new members during growth periods makes it more difficult to achieve metrics:

"Remember when you're growing, and you're growing fairly rapidly, you're getting people in [County] that are coming in completely un-coded, so any benefit you get from the first year and the results, you get another load of un-coded patients. So you have to get to the equilibrium between coded and un-coded patients every year to the point ...to some mathematical inflection point where you start seeing the benefit of all your work…we will get there…" (Payer comment)

Research Aim 2: Stakeholder Opinion about How the Metrics were Realized

The purpose of Aim 2 of this study was to delineate stakeholder opinion about how the metrics were realized, including VBR tactics. The Payer provided a list of tactics utilized in the VBR partnership. After discussion with the Payer and System, the list of tactics was incorporated into the interview guide and pre-interview briefing sheet, as follows:

- Payer clinics for high risk patients
- Payer employed extensivists

- Effective use of technology and data
- Primary care capitation
- Monthly operating committee
- New financial incentives
- Complementary benefit designs to support the clinical model
- Marketing/word of mouth referrals, and other grass roots efforts

Tactics which had the greatest impact: Key informants were asked which tactics had the greatest impact on the first year performance of the VBR partnership. Responses are summarized in the below table, with gray shading indicating the most important tactics based on key informant input and judgment. Key informants could list more than one tactic, and many people did list more than one tactic. However, several of the 17 people interviewed did not list any tactics as having the greatest impact. Reasons for this included not being able to identify any tactic as having the greatest impact and stating that tactics could have been effective under different circumstances. One key informant felt that it was not a single tactic that impacted the metrics, but the interaction of all of the tactics.

> *"I really am a firm believer that there's not really one piece of the puzzle that drives the majority of the outcome. I think it's the comprehensive way in which all the different components kind of come together."* (Payer comment)

For the most part, responses were consistent between key informants of the Payer and System. Overall, the Payer employed extensivists and Payer clinics for high risk patients emerged as having the greatest impact on the metrics. Note: In tables 9 through 18 in this section, at least two key informants mentioned a theme in order for it to be included in the table, and gray shading indicates themes judged to be most important based on the key informant's knowledge of the topic and the strength of their opinion.

Table 9: Tactics which had the greatest impact on 2015 metrics

Major VBR tactic	Key informant grouping (X indicates theme identified by groups below)		
	Payer key informants	System key informants	Consistency between Payer & System
Payer employed extensivists	X	X	X
Payer clinics for high risk patients	X	X	X
Effective use of technology & data	X	X	X
Complementary benefit designs	X	X	X
New financial incentives		X	
Monthly operating committee		X	
Capitation			X
Marketing/word of mouth referrals			X

Gray shading indicates themes judged to be most important.

The sections below are organized in the same order as the tactics having the greatest impact from Table 9. Themes about how each tactic helped to achieve the metrics, or how they did not, are shown in the left column of each table below.

Major VBR tactic: Payer employed extensivists: Extensivists were often mentioned by the key informants as the tactic with the greatest impact. An extensivist is a physician who cares for highly complex patients (i.e., with multiple chronic or acute conditions) in a clinic and/or inpatient setting. In Payer-run clinics, high risk patients are seen by the extensivists, along with other members of the care team. In the Hospital, the extensivists co-manage patients covered under the VBR partnership's plan, along with System-employed hospitalists and other employed or non-employed attending physicians. The extensivists do not co-round with the hospitalists, reportedly because the timing of such co-rounding would be too difficult to time. Instead, the extensivists talk daily in person or by phone with the hospitalists about Payer patients. From a Hospital privileging and documentation standpoint, the extensivist acts as a consultant; they do not serve as the primary or attending physician.

Key informants commented about how they believe the extensivists positively affect the metrics in the inpatient setting.

> *"I think by reviewing discharge readiness criteria with the attending on a daily basis, that helped get patients out of the Hospital really as soon as they're ready to leave. That contributes to the lower than average length of stay."* (System comment)

> *"They help to facilitate getting after discharge, or post-discharge, care. They are available to speak face-to-face as opposed to having to go through a call center and coordinate some type of peer-to-peer discussion."* (System comment)

One primary care physician commented about how s/he values the extensivists' communication.

> *"…the only time I've ever had a hospitalist call me about a patient has been from a [Payer employed] extensivist. I wish hospitalists, in general, would do that more because they don't know the patient, we do...the family doctor…so really working with the extensivist and the family doctor to coordinate that patient's care and kind of make sure that they're appropriate for discharge, and they have the right follow-up after discharge is important. That verbal, five-minute conversation I think is underutilized, but I have experienced it in a positive way with the extensivists from [Payer]."* (System comment)

In the review of hospital care delivery metrics earlier in this chapter, there were key informant comments about the hospital admits per 1,000 metric being lowered through the Payer's management of inpatient vs. observation status. The extensivists are involved in this; they review Hospital admission criteria on behalf of the Payer. This activity and its impact on the metrics is included as a theme in the table below.

In the Payer clinics, the extensivists and their care team identify and treat high risk patients and help develop and implement disease management plans.

> *"…their extensivists are spending, you know 30 minutes, an hour, two hours, with their highest risk members when they come in to be seen, whereas our primary care physicians, on average, are spending 10 to 15 minutes. So I think having an extensivist that can dedicate the time to addressing some of the really complex needs for these patients is important."* (System comment)

In addition to seeing patients in the Hospital and Payer clinics, the extensivists also follow patients in other settings. They also see patients in skilled nursing and rehab facilities, and nurse practitioners under the supervision of the extensivists see patients at home when necessary.

Table 10 summarizes the themes that emerged under the tactic of Payer employed extensivists. All three themes showed consistency between the Payer and System key informants.

Table 10: Major VBR tactic: Payer employed extensivists

How metrics were achieved or why they weren't – themes derived from interviews	Key informant grouping (X indicates theme identified by groups below)		
	Payer key informants	System key informants	Consistency between Payer & System
Reduced ALOS by daily rounding & reviewing discharge readiness criteria with attending physician/hospitalist	X	X	X
Reduced inpatient admits via stringent admission criteria established by the Payer (vs. use of observation status)	X	X	X
Improved patient disease management which improved hospital care delivery metrics, via longer patient visits in Payer clinics and in Hospital	X	X	X

Gray shading indicates themes judged to be most important.

Major VBR tactic: Payer clinics for high risk patients: The Payer operates multiple clinics for high risk patients in the County. There is overlap between the Payer clinic tactic and the extensivist tactic, because the extensivists help to staff the Payer clinics, along with advance practice providers, nutritionists, licensed clinical social workers, medical assistants, and other staff. At the Payer clinics, new plan members can receive an initial medical and psychosocial assessment. Those who are assessed as high risk patients are offered chronic disease management programs. Some of the Payer clinic staff, typically advance practice providers and medical assistants, visit patients at home when needed. The extensivists conducted the home visits in 2015, before the advance practice providers were hired. Post-discharge follow-up appointments for high risk patients are provided in the Payer clinics. Home monitoring equipment is managed via the Payer clinics.

> *"So I think decreasing inpatient admissions is a function of better risk stratification and care management in the outpatient setting. So I think that is directly related to their high risk clinics, their extensivists, their use of predictive analytics and technology to effectively identify those members. I would attribute that performance to those interventions. I think average length of stay has decreased significantly because of the same types of programs. Likely, when [Payer]*

patients are admitted, they may be better managed leading up to the admission, which decreases length of stay." (System comment)

"I think one of the big benefits for the high risk clinics are the magic words 'it's free', but once patients go there they kind of get things under control." (System comment)

"…the clinics to me are the main item that is different than anybody else. You don't see that with other payers, here anyway, in [city]. You'd think that that would get used more." (System comment)

Table 11 below summarizes the themes that emerged under the tactic of Payer clinics for high risk patients. Four out of the six themes showed consistency between the Payer and System key informants.

Table 11: Major VBR tactic: Payer clinics for high risk patients

How metrics were achieved or why they weren't – themes derived from interviews	Key informant grouping (X indicates theme identified by groups below)		
	Payer key informants	System key informants	Consistency between Payer & System
Reduced Hospital (re)admission rate through early and thorough new patient assessment of complex, high risk patients and initiation of disease management programs	X	X	X
Reduced Hospital (re)admission rate through frequent ongoing contact with established high risk patients, including post-discharge care, outreach, care coordination	X	X	X
Reduced Hospital utilization and medical spend via risk stratification to identify high risk patients, followed by interventions	X	X	X
Admissions lowered through quick access to be seen in Payer clinics. Shortage of PCPs to see Medicare patients, and PCP clinic access is not always good.	X	X	X
Payer clinics were conveniently located		X	
This tactic took time to work; Payer clinics started in late 2014, too late to fully impact 2015 metrics		X	

Gray shading indicates themes judged to be most important.

Major VBR tactic: Effective use of technology & data: The Payer operates a technology "command center" at their main office. The Payer uses the technology in the command center to

aggregate clinical and financial data into an enterprise data warehouse and analyze the data in a timely manner. The Payer and the System are on the same electronic health record (EHR). There is an integrated data connection between the EHR and the Payer's enterprise data warehouse. One key informant commented on the importance of being on the same EHR:

> *"Well, one thing that I'll mention is technology and data. So they initially, when Payer joined, they were not on [System's EHR vendor]. I don't know how long that was for. And I think that was really difficult, so they definitely took feedback from the physicians and got on [System's EHR vendor]. And so that's made a really big difference in terms of communication, so I appreciated that."* (System comment)

The Payer uses proprietary predictive analytics to identify patients at high risk of progressing to a more severe disease state or at high risk of hospitalization. High cost patients are identified through claims data and utilization reports. High cost and high risk patients are reviewed by Payer clinicians and staff on a routine basis. Automated alerts and tasks are worked on by Payer staff. Interventions are initiated as a result. A number of key informants mentioned valuable and timely reports which they received from the Payer, which were generated via the Payer's technology and data. Some of the System key informants mentioned that they wish they could receive data about patients who are identified as high risk. They mentioned that the Payer has this data, but it is not getting into their hands. They feel that it would help them to provide better care.

One System key informant noted s/he had visited the command center and stated, "It was very impressive." However, most System key informants did not seem to have visited the command center and did not seem to be familiar with the Payer's technology. This is not surprising, given that the Payer's office is located geographically far away from the County.

Table 12 below summarizes the themes that emerged under the tactic of effective use of technology and data. Two out of the three themes showed consistency between the Payer and System key informants.

Table 12: Major VBR tactic: Effective use of technology and data

How metrics were achieved or why they weren't – themes derived from interviews	Key informant grouping (X indicates theme identified by groups below)		
	Payer key informants	System key informants	Consistency between Payer & System
Reduced admits via use of multiple data sources and risk stratification to identify high risk patients, then brought them into Payer clinics; improved hospital care delivery metrics	X	X	X
Reports/report cards included valuable and timely data about leakage[6], membership, hospital care delivery, specialist referrals, Payer clinic visits, RAF score, dollar spend, medical loss ratio (MLR)[7]; positive effect on gain share	X	X	X
System providers did not receive all of the data they wished about patients' high risk status and psychosocial factors		X	

Major VBR tactic: Complementary benefit designs: Key informants were asked to review the list of plan benefits and to respond if they were aware of the benefits, as well as whether any of the benefits contributed to the first year metrics. Some System key informants expressed a lack of knowledge of the benefits, or a lack of knowledge of detailed features of the benefits.

Many key informants commented on which benefits they felt were the most impactful upon metrics. Key informants could list more than one benefit, and many people did answer with more than one. Not every key informant specified one or more benefits as having the greatest impact on metrics.

[6] In healthcare insurance, the term leakage refers to the use of out-of-network facilities or providers.
[7] Medical loss ratio (MLR) is a percentage of insurance company funds which are expended on patient care.

Table 13: Benefits noted as having the greatest impact on 2015 metrics

Benefit	Key informant grouping (X indicates theme identified by groups below)		
	Payer key informants	System key informants	Consistency between Payer & System
$0 premium	X	X	X
$0 co-pay for PCP or Payer clinic visits		X	
Extensivist care model	X	X	X
Drug benefit	X	X	X
Home monitoring	X	X	X
Initial medical & psychosocial assessment		X	
Ride program		X	
Dental			X
Nutrition			X
Podiatry/foot care			X
Vision			X

Gray shading indicates those judged to be most important.

Several of the Payer key informants stated that all of the benefits were important, or else they could not single out one or more benefits as more important than the others. One person summed up this sentiment about benefits by saying:

> *"…each one of these has a relationship to the overall objectives we're trying to achieve."* (Payer comment)

Some key informants expressed that the plan benefits are very good overall. A few key notable informant comments were:

> *"Some of their plan benefits really can make the patient feel like, "Wow." Especially for the sicker patients, that, 'This is great, I've never had care like this.'"* (System comment)

> *"I think the membership we do have, has been because we have the best Medicare benefits in the County, really of any Medicare Advantage plan."* (Payer comment)

> *"I actually have a lot of patients who I wish were part of [Payer] because they have a lot of issues and barriers that would be overcome or met if they were part of [Payer], based on the plan benefits."* (System comment)

Several key informants stated that $0 premiums were the most impactful plan benefit. One key informant summed up how this benefit impacted the metrics.

> *"I think the zero dollar premium helped that metric about new [patients served] for us. It attracted a type of patient that maybe we hadn't seen at [System]. That was a significant financial incentive that possibly caused people to switch allegiances in that [County name] market. And my theory is that a lot of those new patients were previously loyal to [competitor] and a zero dollar premium plan tied to [System/Hospital] network was enough to switch and helped us hit that new [patients served goal]."* (System comment)

Table 14 below summarizes the themes that emerged under the tactic of complementary benefit designs. The table is organized in the same order as the rankings in Table 13. All but two of the themes showed consistency between the Payer and System key informants.

Table 14: Major VBR tactic: Complementary benefit designs to support the clinical model

How metrics were achieved or why they weren't – themes derived from interviews	Key informant grouping (X indicates theme identified by groups below)		
	Payer key informants	System key informants	Consistency between Payer & System
All benefits: Better benefits than Medicare or other MA plans, at lower cost attracted new patients	X	X	X
$0 premium increased membership metric, especially with members with tight finances		X	
$0 copay to PCP/Payer clinics prevented leakage, which helped to keep costs down; improved opportunity for gain share	X	X	X
$0 copay reduced member out-of-pocket cost, was appealing if member finances are tight, helped grow membership		X	
Extensivists staffed Payer clinics & Hospital, rounded in nursing homes, conducted home visits, developed relationship with sickest patients, did proactive outreach & intervened, spent more time per patient (Also see Table 10, Tactic: Extensivists)	X	X	X
Drug benefit steered to generics vs. brand drugs, mail order was convenient; this reduced cost of care & improved outcomes, impacted gain share opportunity and hospital care delivery	X	X	X
Home monitoring for sickest of the sick helped to reduce readmissions	X	X	X
Initial medical & psychosocial assessment was conducted early to identify high risk patients, then Payer intervened to help improve health, improved hospital care delivery	X	X	X
Initial medical & psychosocial assessment helped to document conditions accurately	X	X	X
Ride program addressed transportation as a barrier to care for those who can't drive, increased receipt of preventive care, ultimately avoided ED utilization & unplanned admissions	X	X	X

Gray shading indicates themes judged to be most important.

Missing benefit–Home visits: A few key informants commented on home visits as a plan benefit which they did not see in the benefit list provided in the interviews. Home visits are conducted by Payer clinic staff, typically one day per week. Patients identified as high risk who are not able to easily come to the Payer clinics are candidates for home visits. Nurse practitioners typically conduct the home visit with help from medical assistants. The nurse practitioner works under the supervision of the extensivists. The extensivists staffed the home visits in 2015, before the nurse practitioners were hired. One key informant commented further about the advantage of home visits:

> *"…they do go out to the patient's homes, and some of these homes are trailer homes. So that's also advantageous. Who does home visits today?"* (System comment)

New benefit-Palliative care: One key informant mentioned that palliative care will be added soon as a new benefit. Palliative care will be targeted to the 1-2% sickest patients, and it will be offered at no cost to patients, via home visits.

Major VBR tactic: New financial incentives: New financial incentives include the gain share incentive, as well as a fee paid to PCPs to coordinate care with the Payer clinics. Capitation, or PMPM payments to physicians, is a separate tactic. Key informants were asked whether the financial incentives impacted them or caused them to make changes. For the most part, key informants responded that the incentives did not impact them. System key informants commented that financial incentives were not a driver for them and/or they did not expect them to be drivers for physicians.

> *"From my end with my practitioners, that's not a driver for us. The financial aspect of it, is not a driver for us...I think that first and foremost is, they like having those extra tools at their hands for the patient, and the financial incentives, you know, is a bonus…in general, I think, you know, for the most part, we know that people, especially physicians, really aren't financially driven. Most of the time it's really more about the patient and their care and their outcome."* (System comment)

> *"… I don't think the gain share arrangement has really any material impact, currently, either in terms of realizing an actual gain share, or impacting or motivating the providers necessarily."* (System comment)

> *"I don't think they [physicians] spend much time thinking about it [gain share], because you know the number of [Payer] patients that are attributed to any one of our physicians is so small,*

in comparison to the rest of their panel, that it's just not a priority for them. So there really hasn't been a lot of conversation about it to be honest with you." (System comment)

Apart from the gain share, there is another financial incentive related to referrals for the initial medical and psychosocial patient assessment. There is a financial incentive for physicians to coordinate care for their patients with the Payer clinics for a free initial medical and psychosocial assessment:

"[Payer] put some money behind those [brand name] assessments, incentivized our doctors to do that, and I think that probably helped reenergize folks around understanding, you know, 'I've got this patient. Let's get them in and get to know them better, spend a little more time with them, and help partner with them to manage their health.' And the bonus payments they did with [brand name of assessment] I would like to think helped, I don't know, motivate, incentivize, energize our primary care physicians about the importance of doing something like that in a way that probably they haven't seen in years and years." (System comment)

Table 15 below summarizes the themes that emerged under the tactic of new financial incentives. Two out of the four themes were consistent between the Payer and System.

Table 15: Major VBR tactic: New financial incentives

How metrics were achieved or why they weren't – themes derived from interviews	Key informant grouping (X indicates theme identified by groups below)		
	Payer key informants	**System key informants**	**Consistency between Payer & System**
Gain share not realized because membership was too low to break even	X	X	X
Gain share not realized because it takes time to reduce the cost of care	X	X	X
Gain share not realized because infrastructure costs such as Payer clinics & extensivists had to be covered first		X	
Fees for coordinated care with Payer clinics motivated physicians		X	

Gray shading indicates themes judged to be most important.

Major VBR tactic: Monthly operating committee: An operating committee meeting is held regularly with participants from the leadership of both the Payer and System. In 2015, these meetings were held monthly. The operating committee meetings provide an opportunity to discuss data and metrics and make tactical adjustments in order to attempt to achieve goals.

A few of the key informants said they were not aware of monthly operating committees. The people who were knowledgeable about the monthly operating committee seem to have positive comments about the meetings helping to achieve objectives.

> *"…the fact that we were getting together and we still do, every month and look at reporting on what's the membership like, where are they going, is there leakage, if so, what are we doing about it? Those were conversations we had not had ever on a timely basis with a payer. And I think that was probably the most significant kind of win in this model in year one is they were able to come in and prove, 'We can get you timely data. We can sit and talk with you as a team and come up with tactics to adjust performance, adjust access, do things to help retain and attract these members.'"* (System comment)

Table 16 below includes one theme that emerged under this tactic, and it was consistent between the Payer and System key informants. However, the impact of this tactic on metrics was not apparent, at least not directly.

Table 16: Major VBR tactic: Monthly operating committee

How metrics were achieved or why they weren't – themes derived from interviews	Key informant grouping (X indicates theme identified by groups below)		
	Payer key informants	System key informants	Consistency between Payer & System
Operating committee refined how System and Payer work together to ensure mutual success (not specific to any metric)	X	X	X

Major VBR tactic: Primary care capitation: Capitation is a fixed PMPM payment from the Payer to providers in exchange for providing care to plan members of the payer. The VBR partnership's capitation payment is only for encounters; medications and labs are carved out. Under the VBR partnership, the capitation amount was intended to reimburse the providers for the average number of times that they typically see a traditional Medicare patient. Additional patient visit requirements would be alleviated by the Payer clinics which help to manage chronic populations.

There have been increases to the capitation amount since the partnership began in order to make the capitation more attractive and help the provider clinics with the additional administrative time and engagement in the patient population. Some of the key informants commented on this:

"We got very little engagement at that [specific dollar amount] PMPM capitation, so we changed it…" (Payer comment)

"…the capitation could have been effective if they had had a higher capitation rate, especially in the first year." (System comment)

One Payer key informant mentioned that capitation was not familiar to many of the primary care physicians and some education had to occur during the sales process. None of the key informants mentioned capitation payments as one of the tactics that had the greatest impact on the 2015 metrics.

Table 17 below includes themes that emerged under the primary care capitation tactic. All were consistent between the System and Payer.

Table 17: Major VBR tactic: Primary care capitation

How metrics were achieved or why they weren't – themes derived from interviews	Key informant grouping (X indicates theme identified by groups below)		
	Payer key informants	System key informants	Consistency between Payer & System
Capitation PMPM payments were received whether PCPs saw patients or not, which incentivized PCPs to join network and grew membership	X	X	X
Capitation rate was too low initially, which hurt PCP enrollment	X	X	X

Gray shading indicates themes judged to be most important.

Major VBR tactic: Marketing & word of mouth referrals: Marketing was directed toward potential patients and toward independent providers through a shared effort of the Payer, the System, and a local health plan which had delegated sales and marketing responsibility. Payer representatives explained that the Payer prefers more grass roots efforts, localized meetings and relationship building to the large scale, nationalized marketing approaches which some Medicare Advantage plans take, though some local advertising did occur. One of the grass roots approaches to attract patients was the placement of marketing agents near doctors' offices.

A few of the key informants explained how when initially contracting with local independent PCPs, representatives from the Payer and System would jointly conduct localized meetings. They would

start with a name of a physician who one of them knew, schedule a visit to the physician's office, meet with the business manager, and explain the contract and the capitation rates. One key informant talked about how the Payer helped in relationship building with independent physicians:

> *"[Payer] did a nice job early on in sort of opening some doors and building bridges with a number of independent physicians in the market, and those relationships have strengthened."* (System comment)

Several key informants mentioned issues with marketing which negatively impacted some of the metrics. There was a mention of PCPs failing to refer patients to the VBR partnership's plan due to compliance concerns, though there are reportedly compliant avenues to refer patients. Some stated that an outside organization which is involved in marketing and sales was not organized at the beginning of the VBR partnership or was delayed in getting started. Some stated that brokers did not fully understand this VBR product.

Table 18 below summarizes the themes that emerged under this tactic. Six out of seven were consistent between the Payer and the System.

Table 18: Major VBR tactic: Marketing & word of mouth referrals

How metrics were achieved or why they weren't – themes derived from interviews	Key informant grouping (X indicates theme identified by groups below)		
	Payer key informants	System key informants	Consistency between Payer & System
PCP network composition increased via grassroots efforts to engage independent physicians	X	X	X
Membership increased through marketing agents placed in or near doctors' offices	X	X	X
Advertising locally increased awareness, which helped to build membership	X	X	X
Membership could be increased through compliant PCP referrals to this plan, but such referrals did not happen often enough which kept membership low	X	X	X
Membership didn't meet goal because organizations involved in marketing & sales weren't organized at the start or were delayed. Brokers didn't understand product.	X	X	X
Network and benefits design helped with marketing and sales, which helped to build membership	X	X	X
Sales hurt by competing health plan offering $0 cost PPO, which hurt membership	X		

Gray shading indicates themes judged to be most important.

Other tactics/missing tactics: Key informants were asked about the completeness of the list of tactics provided in the interviews. Did the key informant notice any missing tactics? Several key informants shared their thoughts on other tactics employed by the Payer which may be worth considering as additions to the tactic list.

Two elements of the Payer clinics were noted as being particularly important. One was the care team which works with the extensivists. The care team includes nurse practitioners, clinical social workers, nutritionists, and medical assistants. The other element was disease management programs. These are standardized clinical interventions to help high risk patients manage their chronic diseases.

Key informants suggested that a sales function and value based network development should be stipulated in the marketing tactic. Another key informant stated that "internal" marketing within the System including to specialists and Hospital staff – not just external marketing to patients and independent physicians – was important.

Other Considerations

During the interviews, other important themes emerged which did not fit into Aim 1 or 2. These additional themes are summarized below, along with illustrative quotations.

Why System entered the partnership: Key informants of the System discussed their initial reasons for entering the VBR partnership.

> *"… one of the reasons that we've partnered with [Payer] in the first place was to try to learn how to actually redesign how care was delivered. How to identify the highest risk patients and how to especially focus on them with care management and go into their homes and that kind of thing."* (System comment)

> *"I know [System] wants to move to more value based is my understanding and away from productivity, so I think having a partnership with [Payer] makes sense. There's a lot we could learn from them."* (System comment)

> *"I think we learned, and are learning, a lot about what it would be like if we were taking risk…"* (System comment)

Comments about the relationship: There were primarily positive comments about the VBR partnership relationship from both parties.

> *"We respect the leadership of [Payer] a lot."* (System comment)

> *"I will give [Payer] a lot of credit, they have been flexible with [us], they have been willing to make changes in how they operate and help us with how we operate to really ensure mutual success."* (System comment)

> *"…it's been hard to get a lot of physician or Hospital engagement, because the membership and plan size is so small."* (System comment)

> *"I think the arrangement is working out very well. I think it's been very beneficial for the patients for the most part, or actually for a great deal of the part."* (System comment)

> *"Overall, I think it's been a good partnership."* (Payer comment)

"We have a great relationship with [System], and certainly the leadership and we are aligned… if we continue in this fashion, it'll be a very successful relationship. And just one other comment, the [System] leadership has been the most forthcoming, honest, and good to work with that I've ever had. I don't know if that means anything, but it means something to me." (Payer comment)

System developing its own VBR resources: An important theme arose about the System building its own VBR resources and how that may affect the future of the VBR partnership.

"…all of the things that they [Payer] were doing as a health plan, if we were going to take on the direct risk ourselves with an employer, or with a commercial plan, those were all the kinds of things that we would need to do ourselves, and not outsource…if you're going to take on risk yourself, you need to develop and have your own in-house, and sometimes embedded, care management people and social workers, and nutritionists, and that kind of thing yourself. You don't want to outsource it...if we're going to take on risk for a hundred or two hundred thousand lives, we have to learn how to have those resources ourselves, rather than relying on another third party to do that. Frankly, all of us have been relying on health plans to do that over the last 20 or 30 years, and it hasn't really been very effective." (System comment)

"You know [Payer] is an important partner, and particularly around Medicare Advantage. I think over the last couple of years we [System] have developed. We've come a long ways in a relatively short period of time, and have developed a lot of internal capabilities around population health, care management, data and analytics that we didn't have in 2015. And so I think the evolution of the partnership is going to have to recognize that we're in a different place than we were before, and we have a lot of opportunities as a System that we can pursue in the Medicare space moving forward..." (System comment)

"I think they [System] are learning a lot from this partnership, but the question is, in my mind, is...what are they actually able to do internally? Because I'm not sure that [System] can mimic everything we [Payer] are doing internally… Hopefully we're doing it the best of anybody, and [System] is learning something from it. But again, I think it remains to be seen whether they're able to do it themselves." (Payer comment)

Suggestions for improvement: Key informants were asked if they would like to suggest any changes to the VBR partnership. Suggestions are summarized and shared here for consideration by the System and the Payer.

Table 19: Suggestions/comments for improvement - made by System key informants

Topic	Suggestion/Comment
Ancillary services	Allow PCP staff to provide some of the services that are provided at the Payer clinics, like nutritionist services. *"We've been told that the [Payer] patients to have to see their [Payer] nutritionist, they can't see our nutritionist, and that's a little bit of a barrier to care for some of these patients."*(System comment)
Communication	Work on extensivist relationships with specialists and improving communication between extensivists and specialists. Not all of those relationships are good.
	Provide PCPs with some verbiage about why patients should go to the Payer clinics for the initial medical and psychosocial assessment. *"The patient will flat out say, 'Well, what are they going to do that you don't do?' I don't know. It's hard to answer without making somebody come off in a negative light."* (System comment)
	Provide PCPs with patient risk stratification results, so that they can better identify and care for high risk patients.
Incentives	Incentivize the PCP clinic staff to help patients of the VBR partnership
	Try to issue PCP capitation checks monthly rather than quarterly
	Include physician assistants as PCPs who are able to receive capitation payments, like nurse practitioners can
Quality	Help PCPs to meet their quality metrics by putting information into the right place in the EHR

Table 20: Suggestions/comments for improvement - made by Payer key informants

Topic	Suggestion/Comment
Branding	Consider a "private label" plan - one branded with the System's name
Incentives	Get specialists and Hospital(s) on some type of value based incentives, not just PCPs
Orientation	Include Payer in primary care on-boarding and orientation programs with primary care clinic staff and providers
Strategy	Consider limiting the number of Medicare Advantage plans with which the System contracts. There are too many, and they are competitive.

Summary of Findings

<u>Review of key metrics:</u>

- New patients served exceeded the goal and was an important metric to achieve for the System, given patients have many high quality providers available to them in the County.
- The metric PCP network composition – the proportion of network PCPs who are independent - did not meet the goal set for 2015.

- The membership metric did not meet the goal set for 2015. This metric was one of the most often discussed in the interviews and was clearly of high importance to the System and Payer.
- Gain share alignment, or the achievement of a profit sharing distribution from the VBR partnership, did not occur in 2015. This metric is an indirect measure of financial performance. Financial performance figures were not included in the study because the Payer and the System did not come to agreement on financial performance figures.
- Hospital care delivery metrics performed better than the CMS fee-for-service comparative benchmarks in 2015. Specific metrics were inpatient admits per 1,000 patients, average length of stay, and readmission rate. The Hospital and System also actively participated in efforts to manage these metrics.
- Themes of value creation beyond the metrics included: learning about VBR, differentiation in the market, learning about HCC codes and RAF scores, increasing patient satisfaction, improving access, and reducing PCP visits via the Payer clinics.

Stakeholder opinion about how the metrics were realized:

- Tactics identified by key informants as having the greatest impact upon the metrics were Payer employed extensivists and Payer clinics for high risk patients.
- Payer employed extensivists were thought to reduce the Hospital's average length of stay by communicating daily with attending physicians about discharge readiness criteria.
- Extensivists also were thought to reduce the inpatient admits through careful management of admissions to inpatient status vs. observation status.
- Extensivists influenced other metrics positively by having longer face-to-face visits with more complex patients, in the Payer clinics and in the Hospital.
- Payer clinics for high risk patients reduced utilization overall as well as medical spend via risk stratification to identify high risk patients, followed by interventions.

- Payer clinics for high risk patients were thought to reduce the Hospital (re)admission rate through early and thorough new patient assessment of high risk patients and initiation of disease management programs.
- Payer clinics for high risk patients helped to reduce the Hospital (re)admission rate by frequent, ongoing contact with established high risk patients, including post-discharge care, outreach and care coordination.
- In 2015, most of the tactics seemed to be initiated by the Payer, given their expertise in VBR, with the System participating as a partner in some of the tactics (e.g., monthly operating committee, marketing).

CHAPTER 5: DISCUSSION

Additional Discussion

In addition to the findings reviewed in Chapter 4, key discussion points are summarized below.

The narrow network HMO product, combined with consumer incentives such as $0 copay, attracted patients to the VBR partnership's plan, which brought new patients into the System. The $0 copay helped to incent in-network utilization, which helped to keep costs down. Though it was not mentioned in the interviews, the $0 copay likely reduced barriers to seeking care at PCP clinics and the Payer clinics. This likely had a positive impact on the hospital care delivery metrics by delivering more proactive care.

The membership goal was not met in 2015. Key informants felt this was because the County was not receptive to an HMO product and sales and marketing tactics fell short. Low membership also arose as a reason why a gain share payment had not yet been attained. The cost of infrastructure compared with the low enrollment in 2015 made it impossible to realize a gain share in the first year.

All three components of the hospital care delivery metric performed well vs. CMS benchmarks. However, the actual pre-2015 hospital utilization figures for these patients are not available. Neither the System nor Payer had complete claims data for this group of patients pre-2015.

One limitation of the hospital care delivery metrics used in this study was that it is not possible to isolate the effects of VBR tactics or plan benefits. As noted in Chapter 1, there is some evidence that Medicare Advantage enrollees tend to be healthier than traditional Medicare beneficiaries (Cooper & Trivedi, 2012; Greenwald, Levy & Ingber, 2000; Miller, Decker & Parker, 2016). It is possible that patients enrolled in this plan in 2015 were healthier than the CMS benchmark and their better health resulted in lower hospital utilization. However, as noted in Chapter 4, most key informants felt that these patients

were sicker or more complex than other patients. If a risk adjustment method is available to the VBR partnership in the future, it would improve accuracy of the hospital care delivery metrics.

Physician satisfaction, patient satisfaction, and key clinical outcomes are not current partnership metrics but would be useful to add and to monitor going forward. Physician satisfaction should be measured every 1 - 2 years. More frequent surveys than that may be difficult for busy physicians to respond to. Surveys should include opportunities for the physicians to provide suggestions for improvement. Patient satisfaction surveys are part of Medicare Stars public reporting, and results could be added to partnership reports. Key clinical outcome measures would be mutually agreed upon by the Payer and System. Examples of outpatient clinical outcome measures are hemoglobin A1c control, blood pressure control, receipt of recommended immunizations, and cessation of tobacco use; the actual list should reflect current Payer and System priorities.

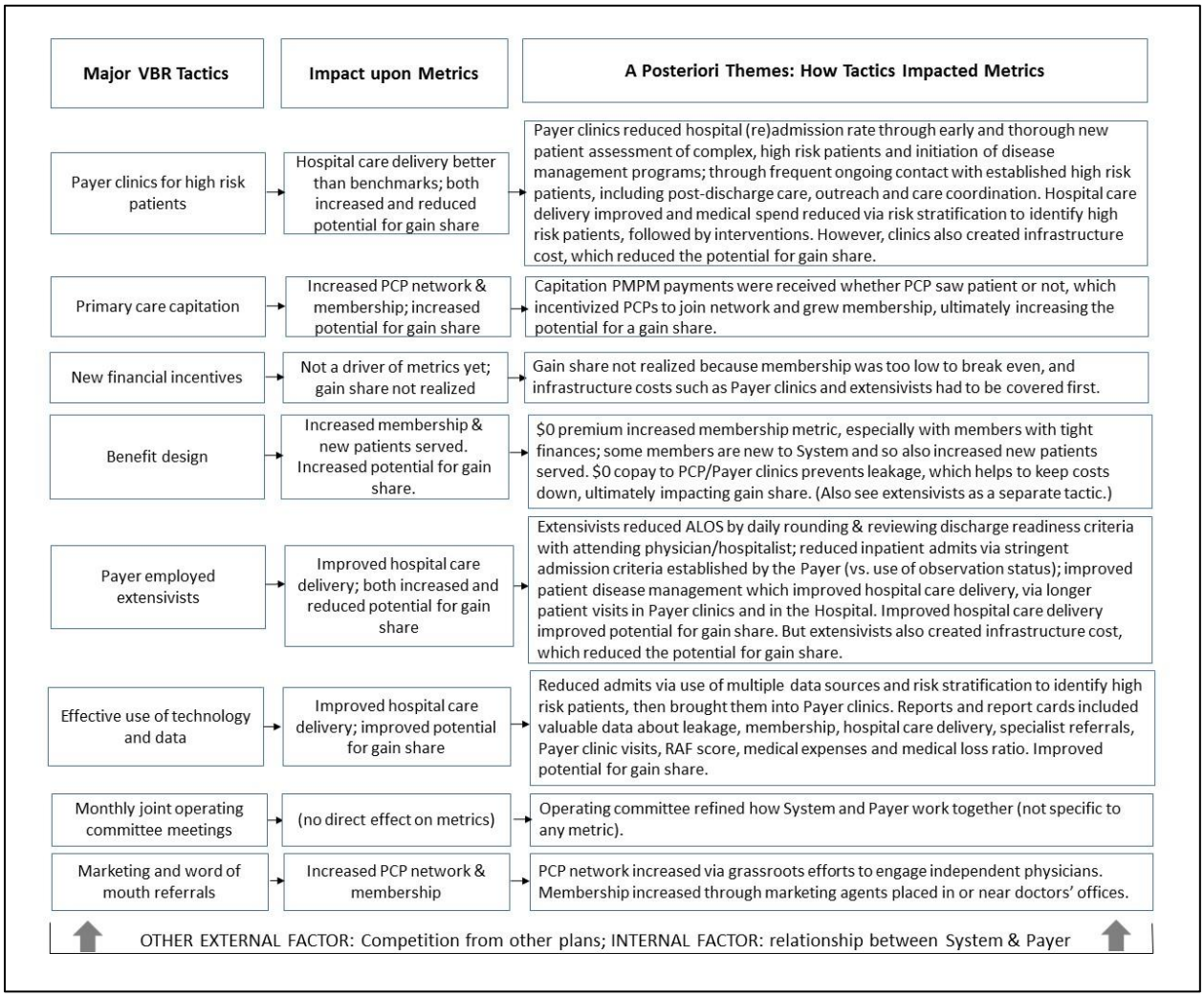
In spite of falling short on some of the metric goals, it seems that the VBR partnership was advantageous overall to the System in its first year. Few new relationships of this sort perform exactly as planned. There was limited financial commitment on the part the System, the high risk clinics and extensivists are funded by the Payer and beneficial for the System and its patients, and the System was beginning to accomplish their strategy of learning about managing the health of populations, taking insurance risk and building network relationships with independent providers. Most feedback about the partnership was positive. There was sentiment that the VBR partnership's plan was a lot of work for a small number of patients and that it was hard to work partially in a VBR environment while still depending on "volume" for most of the patient revenue.

The metric results are expected to continue to improve over time, after the initial learning occurred in the first year of the VBR partnership. The metrics themselves – what is measured – will need to continue to evolve and change as the VBR partnership evolves. Some new metrics will be identified and will need to be added, and others may be removed if they seem to be less useful.

A Posteriori Logic Model

The research results have informed the logic model describing whether the VBR tactics increased or decreased the metrics, and how the metrics were realized. The logic model was updated accordingly. The logic model also contains the most important themes identified in the analysis of the interviews. The final version of the logic model is presented in Figure 5. (The a priori logic model is in Figure 3.)

Figure 5: A posteriori logic model (also in Appendix E)



One of the most significant changes to the logic model was that most of the tactics have a potential impact on gain share.

Payer clinics did improve hospital care delivery, and the means by which they accomplished the improvement were consistent with a priori expectations. Payer clinics both increased and reduced the potential for earning a gain share, which was unexpected. They likely reduced medical expenses by slowing or preventing disease progression and by improving hospital care delivery, but they also introduced significant infrastructure costs which had to be covered before a gain share could occur.

Capitation payments were received whether the PCP saw the patient or not, which incentivized PCPs to join the network. As more PCPs joined the network, this also grew membership, which was unanticipated in the a priori logic model.

The tactic of new financial incentives, including gain sharing and incentives for care coordination with the Payer clinics, did not seem to have a major impact. This was likely because the gain share was not realized in 2015. This could change if the gain share is realized in a future period. The major themes about why the gain share was not realized were that membership was too low and infrastructure costs such as the Payer clinics and extensivists had to be covered first.

Benefit design was originally anticipated to impact the gain share by improving patient health and reducing utilization of high cost services. This study also introduced the themes that membership and new patients served metrics improved through the benefit design. The benefits with the greatest impact were $0 premium, $0 copay and the extensivists. $0 premium brought in new members, some of which were new to the System. $0 copay at participating PCP clinics and the Payer clinics helped to incent in-network utilization, which helped to manage costs and ultimately improved the opportunity for gain share.

Extensivists helped to improve hospital care delivery. Similar to the Payer clinics, the extensivists likely reduced medical expenses by slowing or preventing disease progression and by improving hospital care delivery, but they also introduced significant infrastructure costs which had to be covered before a gain share could occur. Therefore, they both increased and reduced the potential for a gain share.

A theme about the effective use of technology and data to improve hospital care delivery was reinforced by this study. Risk stratification to identify high risk patients emerged as a theme. Data included on reports helped with in-network utilization, membership, hospital care delivery, specialist referrals, Payer clinic visits, RAF scores, medical expenses and the medical loss ratio.

Operating committee meetings did not seem to have a direct impact on metrics.

A new marketing theme which emerged was an increase in the PCP network, via grassroots efforts to engage independent physicians. Membership was increased through marketing agents placed in or near doctors' offices. The new patients served metric was not materially impacted by marketing, as thought in the a priori logic model.

An external contextual factor which emerged was competition from other Medicare Advantage plans, particularly a $0 premium PPO plan offered in the County in 2015. An internal factor which arose was the relationship between the System and Payer, which was a positive factor for the most part.

CHAPTER 6: FEEDBACK, PLAN FOR CHANGE AND POLICY IMPLICATIONS

In this chapter, evaluative feedback to the System and Payer is first summarized. Next, a plan for change is described with the researcher's role at AMGA in mind. Finally, policy implications are discussed.

Feedback to the System and Payer

This evaluation informs the System's current VBR strategy and is of use in the System's future VBR negotiations with insurance companies. It also provides feedback for the Payer. The researcher is not employed by the System or Payer. This is a benefit with regard to conducting the research as an objective outsider.

Evaluating only the first year of the VBR partnership was perhaps too brief. The evaluation would have benefited from review of a longer duration of 2-3 years. The System and Payer are encouraged to conduct an ongoing evaluation of the partnership.

Several recommendations for the System and Payer arose from the interviews and the literature review. The most important of these are as follows.

1. **The partnership will need to evolve and continuously assess whether each party's needs are being met through the partnership.** Though few new partnerships perform exactly as planned, some success has been achieved by the VBR partnership, and the relationship between the parties seems good. Nonetheless, the partnership will need to evolve. Since 2014 when the strategic partnership was formed, the System has created a CIN and entered a Medicare ACO. The System has learned from the Payer and has learned from its own experiences in the CIN and ACO. Therefore, the System is in a different place than it was in 2014.

The System should continue in its journey toward VBR. Some System key informants commented about needing to develop their own VBR infrastructure at some point and not being too dependent upon an insurance company. The two parties may not be completely in sync about this; the Payer seems to want the System to rely on it for VBR strategy and expertise. The two parties will need to periodically reassess what they want to gain from the VBR partnership, especially prior to contract renewal timeframes.

2. **More effort is needed to grow the VBR membership**. While one year was perhaps too short of a period to reach the initial membership goal, overall the number of members covered by the VBR partnership's plan has been too small. System key informants commented that it was too much work for a small number of patients. Changes to the marketing tactic are likely needed in order to increase membership. The value of the VBR partnership's plan needs to be made clearer to patients through improved marketing. Grass roots efforts may not be adequate to grow the number of members to the scale needed to generate a substantial gain share and to the scale desired by the System to feel that the amount of work involved in VBR is justified by the number of members.
3. **To grow membership, the parties should consider offering a Medicare Advantage PPO product in addition to the HMO.** In addition to the HMO product, a PPO product may widen the appeal and help membership to grow larger. Several interview comments were made about HMO products not being accepted in this market. A PPO product could bring in more patients to help spread fixed infrastructure costs over more people, while efforts continue to grow membership in the HMO plan. The narrow network seemed to adversely impact 2015 membership levels because of the limited number of providers in the network and only one hospital.
4. **The parties should re-evaluate the costs and benefits of the extensivists and Payer clinics as the network grows.** The VBR tactics – especially the Payer clinics, extensivists, and benefit design – seem beneficial with the potential to reduce cost, and should be offered to all patients, whether HMO or PPO. The Payer should consider how to maintain the high touch aspect of the extensivists as

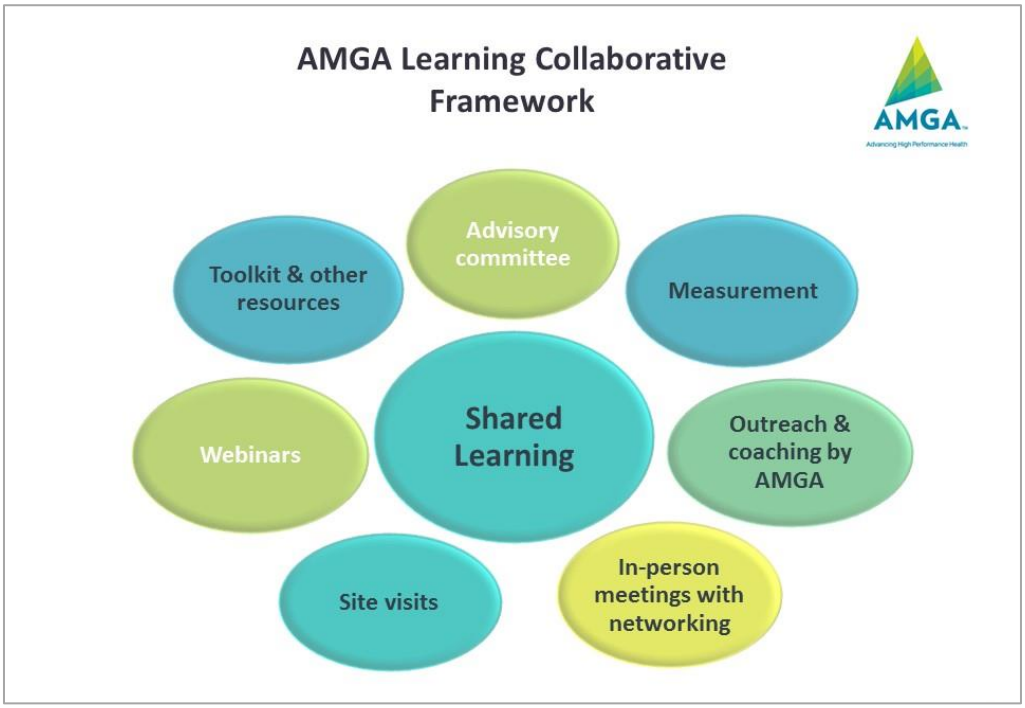
the number of members increases; it may become more challenging to keep in touch with the high risk patients.

5. **Widen the communication "inner circle" to increase engagement.** Operating committee meetings should be continued, as they seem to be a good forum for communication. There seemed to be a trend among the key informants that those who were involved in the committee meetings were more knowledgeable about, and more supportive of, the VBR partnership. If there are opportunities to widen the "inner circle" and engage more people in the committee meetings, it may benefit the VBR partnership.
6. **Increase engagement by specialists and hospital leadership.** There has been a focus on PCP engagement in the VBR partnership to date. Specialists and hospital leadership and management should become more engaged in the VBR partnership. Specialists can have a significant influence on the cost of care, especially via performance of procedures and prescribing patterns. Hospital management is crucial to the success of the VBR partnership, but has not benefited from the VBR partnership to date. It has been more of a System-level initiative. New incentives – financial or otherwise – may be needed for these two types of stakeholders to become more engaged in this VBR partnership.
7. **Improve communication from extensivists to other providers and Hospital/System representatives.** Some critical remarks were made by the System about how the extensivists control inpatient admissions (vs. observation status). The extensivists and the Payer should consider how they could improve communication with System representatives in order to increase understanding about their admission decisions. Also, a suggestion arose in the interviews about the need to work on extensivist relationships with specialists and improve communication between the extensivists and specialists.

Plan for Change with AMGA Members

Separately from the feedback provided to the Payer and System, as summarized above, there are opportunities to further disseminate major themes learned from the literature review and from the research. The researcher's work role is as Director of Translation for AMGA, a national medical group and health system member organization. In this role, she works closely with member organizations to provide coaching and support, including spreading best practices in population health and improving the uptake of relevant research. Subject to funding, AMGA periodically holds year-long learning collaboratives on specific topics. An AMGA learning collaborative focused on VBR will be a good venue for disseminating findings from this study, if funding can be obtained. AMGA's learning collaborative framework is summarized in Figure 6.

Figure 6: AMGA learning collaborative framework



Learning collaboratives can be effective in improving quality in health care (IHI, 2003; Larson et al., 2018; Øvretveit et al., 2002; Tanenbaum, Cebul, Votruba & Einstadter, 2018; Ware et al., 2018; Wells et al., 2017). Øvretveit's (2002) description of a learning collaborative is similar to AMGA's approach:

> *A collaborative brings together groups of practitioners from different healthcare organisations to work in a structured way to improve one aspect of the quality of their service. It involves them in a series of meetings to learn about best practice in the area chosen, about quality methods and change ideas, and to share their experiences of making changes in their own local setting. (p. 345)*

Applying Kotter's eight steps of change (Kotter, 1996), the researcher's proposed role in a potential VBR learning collaborative at AMGA (subject to funding) is described below. Teamwork is part of the AMGA culture; very little is done on one's own. Depending on the scale of a VBR collaborative as well as the outcome of organizational decisions about how to handle the work, the researcher would lead some collaborative elements and participate in/contribute to others. It is difficult to know with certainty which elements the researcher would lead at this early conceptual stage.

Establish a sense of urgency: Regarding Kotter's first step, establish a sense of urgency, organizations opt into AMGA learning collaboratives. Organizations desiring to participate must first submit an application, and a competitive review process follows. There will be a stipend paid to participating organizations ($10,000) to offset some of their participation costs, which is part of the reason why the process is competitive. Because organizations opt in, their leadership will already have decided that the VBR topic is a priority for them. However, some of the AMGA member representatives doing the work in a collaborative have been instructed to do it by their leadership, and they may need help to establish a sense of urgency within themselves or with others in the organization whose buy-in is important. For that reason, AMGA/the researcher will present at the initial in-person meeting and on the first webinar about the problem being focused on. Chapter 1 of this document (Statement of the issue, Significance of the research, and Background) can be summarized and presented to help create a sense of urgency about VBR.

Form a powerful guiding coalition: Kotter's second step of change is to form a guiding coalition. AMGA/the researcher will assemble an **Advisory committee** (refer to Figure 6) of people with expertise in VBR, which could include representatives of the System and Payer, should they choose to be involved. Advisors receive a stipend for their services. In the early stages of planning a collaborative, the advisors

typically meet once in person as well as monthly by conference call/webinar format. AMGA/the researcher will plan the advisory committee meetings, set the agenda, facilitate discussion, and research questions and issues raised by the advisors.

Participating organizations also form their own guiding coalition. Each organization is required to designate a project team, which AMGA/the researcher works closely with throughout a learning collaborative to provide coaching, help with problem solving, connect them to other AMGA members, answer questions, etc.

Create a vision, communicate the vision, and empower others to act on the vision: Kotter's steps 3, 4 and 5 will be addressed by AMGA/the researcher through four elements of AMGA's framework: **Outreach & coaching, In-person meetings, Site visits** and **Webinars**. During all of these interactions with AMGA members, AMGA/the researcher will coach the participating organizations' project teams and their team leader. To initiate dialogue about a vision, the researcher will ask a provocative question, such as, "How do you think patients define the 'value' in value based reimbursement? And how far are you from delivering that value now?"

For VBR, which has strong financial themes, the vision will not be limited to making more money for the organization. While this is likely one goal of a VBR initiative and it may motivate some organizational leaders, it will not inspire a large number of people. A better way to create a vision for VBR will be to tell patient stories. The patient stories will be about real patients (without using their names or other identifying information), and AMGA/the researcher will obtain the stories from collaborative participating organizations or the System and Payer, should they choose to participate in advisor roles. In the shift from "volume" to "value" which the U.S. healthcare system is undergoing, the "volume" stories will be similar to the status quo of traditional volume-based patient encounters. In contrast, the "value" stories will describe a more ideal care model where value is defined as high quality patient outcomes, high patient satisfaction, and optimized total cost of care, using innovative

approaches to care delivery such as the tactics in this VBR partnership (e.g., high risk clinics, home visits, free Uber/Lyft transportation to medical appointments).

In addition to creating dialogue about a vision, the sub-topics summarized in Table 21 below, which arose from the literature review and the research, will be utilized for additional didactic material about VBR during **Outreach & coaching, In-person meetings, Site visits** and **Webinars** (see Figure 6).

Plan for and create short-term wins: This is Kotter's step 6. AMGA learning collaboratives typically include quarterly measures of improvement, represented by **Measurement** in Figure 6. Monitoring progress through data measurement is one way to identify short-term wins. AMGA/the researcher will also provide recognition for the highest performing organizations and most improved organizations at its **Webinars** and **In-person meetings**.

The measures for this VBR collaborative will be similar to the System and Payer's metrics. In particular, membership (number of covered lives), new patients served, and hospital care delivery are VBR metrics which can be measured quarterly with a goal of incremental growth. Also, patient satisfaction, physician satisfaction and average RAF score would be useful longer term annual metrics. AMGA/the researcher will provide measure specifications for its members to follow. The researcher or a data analyst will then compile the data into comparative benchmarking charts.

Consolidate improvements and produce more change: This is Kotter's step 7. AMGA collaborative participants will receive coaching about how to lead change management efforts at their organizations, and the researcher will help to lead the coaching. For example, at one "Analytics for Improvement" learning collaborative meeting, the researcher and a colleague co-presented an interactive session about how to lead change using Kotter's framework. It is clear from the key informant interviews that VBR requires substantial organizational change, including changes by providers. Leadership of change management will be critical for each organization participating in the VBR learning collaborative.

Institutionalize new approaches: Kotter's step 8 is about "stickiness" and sustainability. AMGA members include some of the largest health systems and medical groups in the country, including Kaiser, Cleveland Clinic, Mayo Clinic, Catholic Health Initiatives, and the newly merged Advocate-Aurora organization in Illinois and Wisconsin. Partially as a result of their size, AMGA member leaders tend to be systems thinkers, having to consider how to scale up successful innovations and make them part of standard workflow. At the closing **In-person meeting** of a learning collaborative, one or more speakers will talk about success stories and strategies for sustainability. Also, AMGA/the researcher, with guidance from the **Advisory committee**, will coach the project teams about VBR scale-up and sustainability during monthly conference calls for **Outreach & coaching, Site visits, Webinars,** and other interactions with members.

Confidentiality and blinding is in place per agreements with the System and Payer. This research provides a case study of a VBR partnership with several themes for AMGA organizations to consider. These lessons can be shared with AMGA member organizations at a high level - without sharing confidential information and while maintaining blinding - through the researcher's translation role. In addition to the potential VBR learning collaborative, the researcher will apply and disseminate learnings from this research in her many interactions with AMGA members. VBR and Medicare Advantage are hot topics for AMGA members. Table 21 lists high level takeaways about VBR which are suitable for dissemination and coaching during site visits, conference calls, webinars, seminars and conferences, while still preserving confidentiality for the Payer and System. VBR is a topic that can be "layered onto" chronic disease quality improvement initiatives which AMGA/the researcher work on with members.

Table 21: VBR topics for AMGA dissemination

Topic	Summary
Logic model	The a posteriori logic model in Figure 5 provides a framework which can be applied to other VBR arrangements.
Impactful tactics	High risk clinics and extensivists (or hospitalists) were found in the literature review as well as in this project. The pros and cons of putting higher impact/higher cost tactics like these in place are important to consider in VBR arrangements and would be an important topic for AMGA members.
VBR financial incentives	The literature review found extensive information about VBR financial incentives. A summary of this information will assist AMGA members in their VBR negotiations and decisions.
Timeframes	Adequate ramp-up time should be factored into new VBR models in order to attract payers and health systems to those new models, and to provide the best possible opportunity for their success. It took time for a new venture like this to operate effectively and for providers to learn new competencies. Payer representatives noted that it took time for patients' conditions to be fully documented so that they would be factored into the RAF score, to permit appropriate reimbursement from CMS to the Payer. Future innovative payment models should try to balance a short term need for minimizing downside risk while learning about VBR, with a long term goal of growing VBR infrastructure.
HMO vs. PPO	While many payers have a national presence and a national perspective, healthcare organizations like those in AMGA are closely tied to the communities they serve. AMGA members should investigate their market's willingness to accept HMO plans before entering risk arrangements with HMO plans.
Advantages other than what the metrics reflect	Entering the VBR arrangement was felt to provide a boost in building a clinically integrated network, a competitive advantage, improved ambulatory access, and learning about VBR risk stratification, population health, and HCC coding/RAF scores.
Pros and cons of a payer-health system partnership	Insurance companies like the Payer bring relevant experience and expertise. In this case, the Payer was also willing to take downside risk. On the other hand, in a partnership like this one, the transfer of knowledge does not completely occur from an insurance company to a health system. These are important considerations for AMGA member organizations.

Policy Implications

There are three policy implications of this research for federal policymakers:

- Federal policies should be considered to require improved transparency of data, including claims data, between payers and health systems with common beneficiaries and patients.
- If Medicare Advantage plans can demonstrate superior patient outcomes and ultimately lower the cost of care, then federal funding to Medicare Advantage plans should not be reduced.

Medicare Advantage shows promise because of innovations which strategic partnerships like this one have begun, with the potential to ultimately reduce healthcare costs.

- The Center for Medicare and Medicaid Innovation should consider testing payment models which pay primary care providers via capitation to determine if it results in improved approaches to treating traditional Medicare patients.

Payers want to protect their proprietary knowledge base, which is a reasonable goal. Payers also possess claims data that many health systems lack. At AMGA, members have complained about Payers withholding claims data from them. As noted in this study, technology and data is an important tactic to monitor health service utilization and manage the cost of care. **Federal policies should be considered to require improved transparency of data, including claims data, between payers and health systems with common beneficiaries and patients**.

The flexibility which Medicare Advantage plans have to offer different benefits and interventions than traditional Medicare was a positive in this scenario. The benefits were described positively by key informants. As noted in Chapter 1, the way that Medicare Advantage plans are paid PMPM by CMS creates greater incentives to reduce the volume of services through innovation (Ayanian et al., 2013; CMS, 2016; MedPAC, 2016). However, Medicare Advantage plans cost the U.S. government more than traditional Medicare. Federal reductions in funding for Medicare Advantage plans are proposed from time to time, which may threaten the viability of some of these plans, forcing some plans out, and potentially losing the innovations which exist. **If Medicare Advantage plans can demonstrate superior patient outcomes and ultimately lower the cost of care, Medicare Advantage funding should not be reduced**.

VBR arrangements like this one have incentives to identify high risk patients and intervene proactively with them to delay or prevent disease progression and hospitalization. Traditional payment arrangements often do not provide such incentives. Capitation provides a revenue stream while providers and health systems can explore new approaches to treating patients. This theme arose during

the key informant interviews and was also present in the literature review (Tanio & Chen, 2013). Capitation has been present in some commercial insurance, some Medicaid plans, and some Medicare Advantage plans, but it has not been an option for traditional Medicare reimbursement outside of innovation projects or ACOs. Future Medicare VBR payment mechanisms may want to make increased use of capitation. **The Center for Medicare and Medicaid Innovation (CMMI) should consider testing payment models which pay primary care providers via capitation to determine if this indeed results in improved approaches to treating traditional Medicare patients, with a goal of delivering higher quality at lower costs.** Such capitated payment models are most likely to be attractive to integrated health delivery systems with a large number of lives to manage; organizations should not be required to accept capitation. If a CMMI test is successful, such a capitated payment model should be considered for addition to the list of CMS-approved Advanced Alternative Payment Model under MACRA, which would enable organizations like the System to earn a 5% incentive while meeting regulatory requirements to engage in VBR (114th Congress, 2015; CMS, 2018).

APPENDIX A: DEFINITIONS USED IN THIS DOCUMENT

Accountable care organization (ACO) - A collection of physicians and hospitals which take risk related to cost and quality to have an opportunity to share in savings (Casto & Forrestal, 2013)

Capitation – A fixed per member, per month payment from an insurance company to a primary care provider, intended to cover the provider's cost of care for assigned patients. Typically occurs in HMOs.

Clinical Integration Network or Clinically Integrated Network (CIN) – A group of health care providers linked together by contract and often affiliated with a health system. The network may include both independent and employed health care providers. Members of the network are typically incentivized toward common quality and cost of care goals. (Strilesky, 2012)

Extensivist – A physician who cares for highly complex patients (i.e., with multiple chronic or acute conditions) in a clinic and/or inpatient setting

Fee-for-service - Reimbursement from an insurance company to a healthcare provider to compensate for the volume of services rendered

Hierarchical Condition Categories (HCC) – Part of a risk adjustment model used by the Centers for Medicare and Medicaid Services, HCC conditions generate a Risk Adjustment Factor (RAF) score which attempts to account for patient illness in calculating reimbursement. (CMS, 2017)

Health Maintenance Organization (HMO) – A type of health insurance plan which typically requires beneficiaries to go through a primary care provider before seeking care from specialists, and typically restricts the use of out-of-network providers and facilities through higher co-pays and deductibles or non-payment for out-of-network services

High risk clinic – An outpatient doctors' office or hospital outpatient setting to care for highly complex patients (i.e., with multiple chronic or acute conditions)

Leakage – In healthcare insurance, the term leakage is sometimes used to refer to the use of out-of-network facilities or providers.

Lean – A popular continuous improvement approach which draws on primarily Japanese manufacturing methods to reduce waste in processes and improve efficiency, quality and safety (Bielaszka-DuVernay, 2011a; "Critical path network: interdisciplinary initiative", 2009)

Medical home – Also called "patient centered medical home"; a formal type of care model wherein patients are attributed to a primary care provider and receive coordinated care; often certified by an accrediting body (examples of accrediting bodies: National Committee for Quality Assurance, American Academy of Family Physicians)

Medical Loss Ratio (MLR) – A percentage of insurance company funds which are expended on patient care

Medicare Advantage – Privatized Medicare insurance for Americans age 65 and above, typically provided by commercial insurance companies which enter into contracts with the federal government

to provide such insurance. The latter are also called Medicare Advantage Organizations. Benefits and cost may vary from Medicare. Also called Medicare Part C. Formerly called Medicare+Choice.

Nursing care management – This term covers a range of services typically delivered by nurses or medical assistants which are intended to coordinate and communicate primary and specialty care between clinic visits, in a proactive manner. Also referred to as coordination of care.

Outcomes based reimbursement (or outcomes based payment or purchasing) – Synonym for Value based reimbursement – see definition for Value based reimbursement

Risk Adjustment Factor (RAF) – Primarily used by the Centers for Medicare and Medicaid Services, RAF is a method of adapting reimbursement to account for the number and severity of patient diseases or conditions. (CMS, 2017)

Star ratings - Star ratings are standardized insurance plan scores, ranging from 1-5 stars, with 1 being a poor score and 5 being the best score

Telemonitoring or telemedicine (For the purposes of this dissertation, these terms are used interchangeably. The use of equipment and electronic information signals (usually via computer or telephone) to obtain information about patients who are at other locations, most often home or hospital.

Transitions of care – Typically refers to the processes involved in a patient's move from an inpatient setting to home in order to lessen the chance of a readmission. Processes often include scheduling of a clinic appointment to occur post-discharge, medication reconciliation, home visit and environmental assessment, and patient and caregiver education.

Value based reimbursement (or value based payment or purchasing) ("VBR") – Third party reimbursement based at least in part on patient outcomes, performance of specified quality measures, and/or the cost of care. Typically includes risk of a reduction in reimbursement.

APPENDIX B: PRE-INTERVIEW BRIEFING SHEET

(redacted to exclude confidential names of the Payer and System)

Introduction: I'm Jill Powelson, a doctoral student working on my dissertation at the University of North Carolina Gillings Global School of Public Health (UNC SPH). I have had a 30 year career in healthcare including operations leadership, quality improvement, and nursing. I'm currently the Director of Clinical Translation for the American Medical Group Association (AMGA).

Background: As you know, the System is a strategic partner with the Payer and they have introduced a Medicare Advantage product in _____ County with some elements of value based reimbursement (VBR). The System and Payer are interested in evaluating the effect of the new partnership upon System, and both organizations are actively cooperating in the research.

Therefore, when we talk during the interview, I hope that you will feel comfortable speaking freely.

Interviews: Our collective goal is to evaluate the effect of the Payer VBR strategic partnership upon System. We will discuss several metrics about the first year of operations under this contract at System, including hospital utilization. These interviews will further explore the "how and why" of the effects we're seeing. You have been identified by System or Payer as someone whose input would be beneficial for the interviews.

My preference would be to tape record our interview so that I can have complete notes. At the beginning of the interview, I will ask your consent to record.

Payer VBR tactics:

The following have been identified by System and Payer as major tactics of their arrangement. During the interview, I will ask whether you think this is a complete list, as well as how you think these tactics might influence the metrics shown below.

- Payer-run high risk clinics
- Payer-employed extensivists
- Effective use of technology and data
- Primary care capitation and monthly operating committees
- New financial incentives
- Complementary benefit designs to support the clinical model
- Marketing/word of mouth referrals, and other grass roots efforts with brokers and community leaders

Metrics for Payer VBR contract:

Metric	2015 Goals	Description	Outcomes
New patients served	Significant % of members are "new to SYSTEM"	Significant % of Payer members are "new to System", meaning they haven't had a visit to System in the 18 months prior to becoming an Payer member	Exceeded goal
PCP network composition	Significant % of network PCPs are independent PCPs	Gain participation from independent PCPs to (1) build relationships with those PCPs with the goal of involving them with other value based care programs and (2) ensure a broader network across the County to drive PCP access and improve attractiveness of the product	Did not meet goal Joint collaboration on provider outreach between System and Payer also had a positive impact on System's Clinically Integrated Network contracting efforts.
Membership	x members	Achieve annual membership goal	Did not meet goal Shared responsibility of Payer, other insurer[8] and System
Gain share Payer	N/A	Create gain shares with the PCPs and Hospital, allowing them to participate in the benefits from practicing value based care over time	Gain share in place; no money was distributed in 2015

	2015 FFS Benchmarks (Regional) @ 1.0 Risk Score	**Payer 2015 Performance***
Inpatient Admits per 1,000 Patients	236	Lower than benchmark
Inpatient Average Length of Stay	5.3	Lower than benchmark**
Inpatient Readmission Rate %	16.1%***	Lower than benchmark
**Based on 2015 dates of service claims data*		
***1 Hospital where Payer had the ability to influence hospitalist processes and inpatient LOS*		
****Data based on all 2015 FFS & Medicare Advantage Data; not risk adjusted*		

During our interview, I will ask for your thoughts and insights about the above metrics.

[8] Other insurer is delegated for Sales and Marketing in the County on behalf of the partnership.

Plan benefits:

The following benefits were offered by the VBR plan in 2015. I will ask if you were aware of these benefits and whether you believe any of these benefits contributed to the metrics (shown just above) or created value in some other way.

- Ride program
- Drug benefit
- 0 premium
- 0 copay for PCP/Payer Care Centers
- Home monitoring (Vivify System with video conferencing)
- Dental benefit
- Vision benefit
- Nutrition/podiatry benefit (in house nutritionist/podiatry)
- Jump Start
- Extensivist Care Model

Confidentiality: UNC SPH has confidentiality agreements in place with System and Payer under which this research will be conducted. I am covered under this agreement as a student of UNC SPH. Payer retains rights to its confidential information under these agreements and will review the resulting dissertation document to ensure that confidential information is appropriately protected.

System and Payer will be blinded (the organizational names/locations will not be shown) in the resulting dissertation document, at their request.

I will provide a complete list of interview questions to you in advance.

Thank you for your consideration. My contact information is provided below, should you need to contact me before or after the interview.

Best wishes,

Jill Powelson
E-mail powelson@ad.unc.edu
Mobile (901) 786-3410

George H. Pink, PhD
Chair, Dissertation Committee
Email: gpink@ad.unc.edu

APPENDIX C: INTERVIEW GUIDE FOR KEY INFORMANT INTERVIEWS

(redacted to exclude confidential names of the Payer and System)

Section 1: Introduction

The purpose of this research is to understand the first year metrics and outcomes of a new Value Based Reimbursement (VBR) arrangement (a health insurance contract and strategic partnership) between System and Payer and to explore how they occurred. This research is being conducted as part of my doctoral dissertation in public health leadership at the Gillings School of Global Public Health, University of North Carolina, Chapel Hill.

You have been identified by either System or Payer as a key informant appropriate to participate in interviews. You should have also received a briefing sheet via advance e-mail.

This interview is intended to:

- Review the impact of the new VBR arrangement with you, and
- Ask for your knowledge and opinions about how the impact occurred.

The interview should take about 1 hour. Your responses will be treated confidentially and the findings will be reported anonymously. I would greatly appreciate a recording of this interview for analysis purposes. The recording will be deleted after I complete my analysis, and no comments will be directly attributed back to you unless I specifically obtain your consent, in advance, to do so.

- Do you have any questions about the research study or the interview? (If so, pause and review the briefing sheet and any questions they may have.)
- Do you consent to be interviewed?
- May I record this interview? (Then ask the 2nd and 3rd questions again after pressing Record.)

Section 2: Background

Q1. What is your role in the organization?

Follow-up questions: What is your job title? How long have you been in this role?

Section 3: General information on VBR arrangement

Q2. What is your current involvement in the VBR arrangement?

Follow-up questions: If a provider, do you know how many (or what proportion of) Payer patients you have?

Q3. Are you familiar with the financial incentives tied to the VBR arrangement, such as gain sharing?

Follow-up questions: Do the financial incentives impact you?

Q4. (For System) Did you make any changes at your organization (or if a provider, in your practice) as a direct result of the VBR arrangement?

Follow-up questions: New programs or services, new hires, new committees, new metrics or reports? Did it have any impact on your clinic capacity?

Section 4: Payer VBR tactics

Q5. Reflecting again on the briefing sheet, VBR tactics used in this arrangement are listed there:

- Payer-run high risk clinics
- Payer-employed Extensivists

- Effective use of technology and data
- Primary care capitation and monthly operating committees
- New financial incentives
- Complementary benefit designs to support the clinical model
- Marketing/word of mouth referrals, and other grass roots efforts with brokers and community leaders

What are your thoughts about the completeness of this list of tactics?

Follow-up questions: Is anything missing – is there a tactic being used that I do not have listed? Should any of these be removed?

Section 5: Assessing the first year metrics

Q6. Do you think that VBR tactics contributed to the first year performance on these metrics?

Follow-up questions: Where did they exceed, fall short or meet expectations?

Q6a. If answer to Q6 is yes: Which VBR tactics do you think had the greatest impact on the first year performance? (see list in Q5)

Follow-up questions: Which were the driving force of the changes? For example, how important were the financial incentives?

Q6b. If answer to Q6 is yes: How do you think the VBR tactics achieved the metrics?

Follow-up questions: Do you have any further thoughts about how the results were achieved?

Q7: Did the VBR tactics create value in other ways not shown by the metrics?

Follow-up questions: Did they change care or other processes for non-Payer patients, including at the Hospital?

Section 6: Plan benefits

Q8. The briefing sheet includes plan benefits offered in 2015:

- Ride program
- Drug benefit
- 0 premium
- 0 copay for PCP/Payer Care Centers
- Home monitoring (with video conferencing)
- Dental benefit
- Vision benefit
- Nutrition/podiatry benefit (in house nutritionist/podiatry)
- Initial medical and psychosocial assessments
- Extensivist Care Model

Were you previously aware of these benefits?

Q9. Do you believe that any of these benefits contributed to the first year performance on the metrics on the briefing sheet?

Follow-up questions: For physicians: Did you get feedback from the patients on any of these benefits? Did you believe it affected their satisfaction?

Q9a. If answer to Q9 is yes: Which ones?

Follow-up questions: In your opinion, were any of these more important than the others in achieving the metrics?

Q9b. If answer to Q9 is yes: Why do you think these benefits impacted the 1st year performance metrics?

Q10. Did the benefits create value in other ways not shown by the metrics?

Section 7: Differences

Q11. How do you think the health of the patients covered by this specific Medicare Advantage insurance plan compares to other Medicare or Medicare Advantage patients?

Follow-up questions: Can you elaborate?

Section 8: Conclusions and wrap-up

Q12. What other explanations may exist for the first year performance shown in the metrics?

Q13. Do you expect to see different financial metrics for the 2nd full year (calendar year 2016)? If so, what do you expect to see?

Follow-up questions: Do you think that the 2015 results are sustainable? Do you think that some part of the expected change in the 2nd year (CY2016) could be due to VBR?

Q14. How does the partnership with Payer fit into System's overall VBR strategy?

Follow-up questions: Does it advance their strategy? How?

Q15. Overall, do you think that the VBR arrangement was advantageous to System in 2015?

Follow-up questions: Why or why not?

Q16. Are you aware of any changes planned for the VBR arrangement, or changes in its major tactics?

Follow-up questions: Would you like to suggest any changes to the VBR arrangement? If so, what?

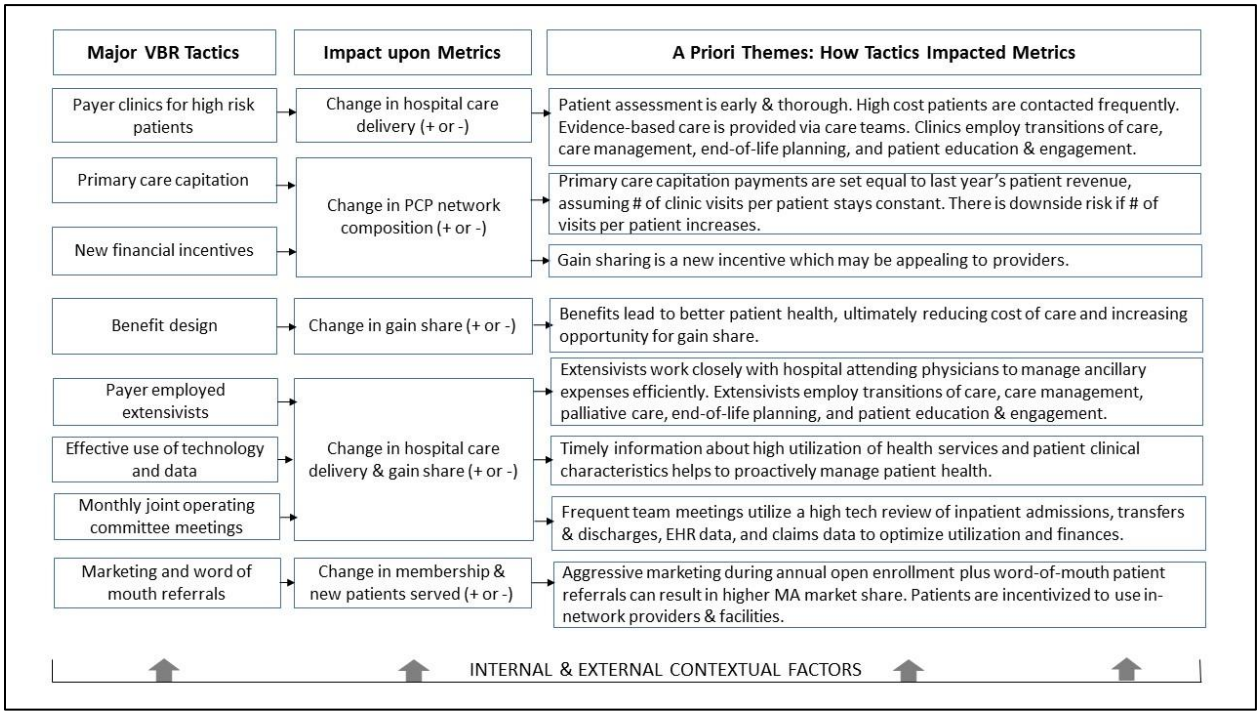
Q17. Is there anything else that you would like to share with us regarding the VBR arrangement?

Follow-up questions: Is there anything else that I should have asked? Are there other results about the VBR arrangement that I should review?

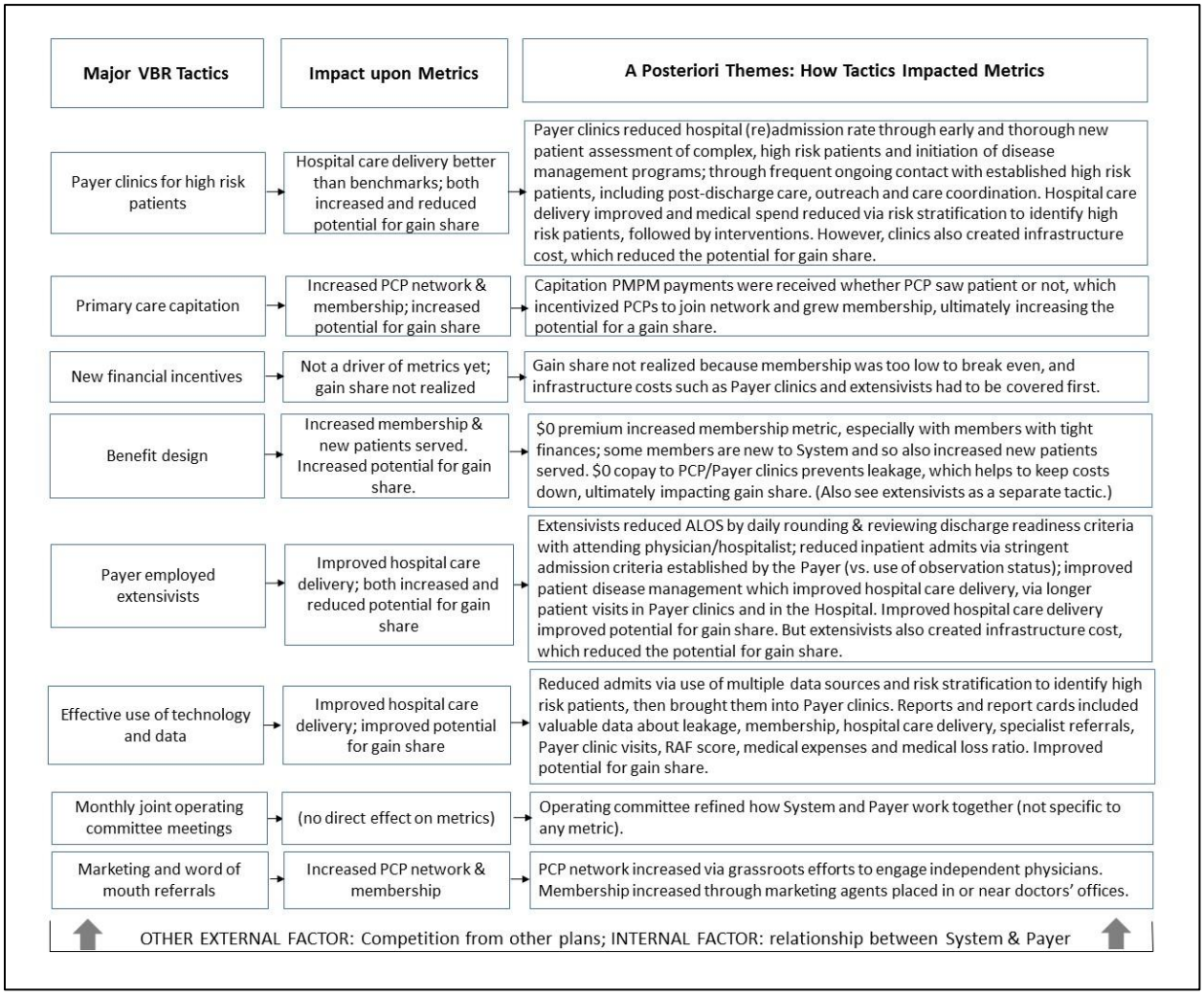
####

Thank you very much for your participation. If you are interested, I would be pleased to share the results of my research when the final report has been approved for sharing.

APPENDIX D: A PRIORI LOGIC MODEL



APPENDIX E: A POSTERIORI LOGIC MODEL



APPENDIX F: CODING FOR QUALITATIVE ANALYSIS

Code Groups	Code	Explanation of code
Benefits	Benefit 0 Copay	Benefit: zero copay for visits to PCPs and Payer clinics
Benefits	Benefit 0 Premium	Benefit: zero monthly premium for Part C, Medicare Advantage
Benefits	Benefit Assessment	Benefit: an initial thorough medical and psychosocial assessment for new plan members. The service has a brand name, but it is not shown here because of blinding.
Benefits	Benefit Dental	Benefit: dental coverage
Benefits	Benefit Drugs	Benefit: drug benefits, including $0 for generic drugs
Benefits	Benefit Extensivists	Benefit: extensivist professional services, at no charge. An extensivist is a physician who cares for highly complex patients (i.e., with multiple chronic or acute conditions) in a clinic and/or inpatient setting.
Benefits	Benefit General/Unspecified	Pertaining to plan benefits generally; not specific to a particular benefit
Benefits	Benefit Home Monitor	Benefit: wireless home monitoring, for certain patients at high risk of readmission
Benefits	Benefit Nutrition	Benefit: services provided by a nutritionist at the Payer clinics
Benefits	Benefit Other	Benefits other than those on the pre-interview briefing sheet, such as low maximum out of pocket (MOOP), or 0 copay for urgent care
Benefits	Benefit Podiatry/Manicurist	Benefit: podiatry or medical manicurist services, provided at the Payer clinics
Benefits	Benefit Rides	Benefit: Uber/Lyft transportation to medical appointments, to the pharmacy, and other medically oriented trips
Benefits	Benefit Vision	Benefit: glasses and frames
Benefits	Benefit: - comment	A negative comment about one of the benefits
Benefits	Benefit: + comment	A positive comment about one of the benefits
Benefits	Benefit: greatest impact	Designating one or more benefits as having the greatest impact on the 2015 Metrics
Benefits	Benefit: how worked	Providing insight about how the benefit worked, particularly how it affected the 2015 Metrics
Benefits	Benefit: missing benefit	A benefit was noted as missing from the benefit list
Benefits	Benefit: unaware	The interviewee was unaware of one or more benefits
Metrics	Metric Admits	Metric: inpatient Payer admits per 1,000 patients at System Hospital, compared with same year fee-for-service benchmarks @ 1.0 risk score

Code Groups	Code	Explanation of code
Metrics	Metric ALOS	Metric: inpatient Payer average length of stay at System Hospital, compared with same year fee-for-service benchmarks @ 1.0 risk score
Metrics	Metric Gain Share	Metric: a percentage of the profit (or excess revenue after expenses are deducted) from the VBR arrangement
Metrics	Metric Member Count	Metric: number of members enrolled in Payer plan
Metrics	Metric New Patients	Metric: proportion of patients who are enrolled in Payer plan and new to the System (New=have not had a visit to the System in the 18 months prior to becoming a plan member)
Metrics	Metric PCP Network	Metric: proportion of Primary Care Providers (PCPs) who are independent vs. employed by System
Metrics	Metric Readmits	Metric: inpatient Payer readmissions at System Hospital, compared with same year fee-for-service benchmarks @ 1.0 risk score
Metrics	Metric: - comment	A positive comment about one of the metrics
Metrics	Metric: + comment	A negative comment about one of the metrics
Metrics	Metric: changes	A metric result has changed since 2015
Metrics	Metric: missing	A metric was noted as missing from the list included in the pre-interview briefing sheet
Metrics	Metric: no changes	A metric result has not changed since 2015
Metrics	Metric: other explanations	There are other explanations for the metric's performance, apart from the VBR tactics
Partnership	Advantageous to System: No	The VBR partnership has not been advantageous for the System
Partnership	Advantageous to System: Other	Other comment about the VBR partnership being advantageous or not for the System
Partnership	Advantageous to System: Yes	The VBR partnership has been advantageous for the System
Partnership	Payer as partner + comment	A positive comment about Payer as a partner in the VBR arrangement
Partnership	System as partner + comment	A positive comment about System as a partner in the VBR arrangement
Partnership	System didnt make changes/not aware of changes	The System did not make any operational changes because of the VBR partnership, or the interviewee was not aware of any such changes
Partnership	System made changes bc of partnership	The System made operational changes because of the VBR partnership
Partnership	System made changes but not bc of partnership	The System made operational changes but not because of the VBR partnership
Partnership	Why entered partnership	A comment about why the System or Payer entered the VBR partnership

Code Groups	Code	Explanation of code
Tactics	Tactic Benefit Design	VBR tactic: complementary benefit designs to support the clinical model
Tactics	Tactic Capitation	VBR tactic: primary care capitation payments (per member, per month payments)
Tactics	Tactic Care Centers	VBR tactic: Payer clinics in the County providing initial assessments of medical and psychosocial needs, and ongoing care for high risk patients. Staffed by Extensivists and multi-disciplinary care team.
Tactics	Tactic Extensivists	VBR tactic: extensivist professional services, at no charge. An extensivist is a physician who cares for highly complex patients (i.e., with multiple chronic or acute conditions) in a clinic and/or inpatient setting. (also see Benefit Extensivists)
Tactics	Tactic General/Unspecified	VBR tactic: pertaining to tactics generally, not to a specific tactic
Tactics	Tactic Incentives	VBR tactic: financial incentives including Gain Share and fees for coordination with Payer clinics. Note that Capitation payments are in a separate tactic.
Tactics	Tactic Marketing	VBR tactic: marketing and word of mouth referrals, and other grass roots efforts with brokers and community leaders
Tactics	Tactic Mo Oper Comm	VBR tactic: monthly operating committee meetings with representatives from Payer and System
Tactics	Tactic Other	VBR tactic: pertaining to a tactic which was not included on the tactic list in the pre-interview briefing sheet
Tactics	Tactic Technology/Data	VBR tactic: effective use of technology and data, including Payer command center/data stack, shared electronic health record, predictive modeling algorithms, enterprise data warehouse, reports and report cards
Tactics	Tactic: - comment or needs improve	VBR tactic: a negative comment was made, or a suggestion for improvement
Tactics	Tactic: + comment	VBR tactic: a positive comment was made
Tactics	Tactic: greatest impact	VBR tactic: one or more tactics were noted as having the greatest impact on metrics
Tactics	Tactic: how worked	VBR tactic: an interviewee described how a tactic worked, particularly how a tactic worked to achieve one or more metrics
Tactics	Tactic: late or slow	VBR tactic: a tactic was put into place late or slowly
Tactics	Tactic: missing tactic	VBR tactic: a tactic was missing from the list provided in the pre-interview briefing sheet

Code Groups	Code	Explanation of code
Tactics	Tactic: unaware	VBR tactic: the interviewee was unaware of one or more tactics
	Building CIN	Pertaining to the building of a Clinically Integrated Network by the System
	Coding	Pertaining to professional coding, particularly of diagnosis codes but also procedural codes
	Communication	Pertaining to communication between two or more parties
	Coordinate/Collaborate	Pertaining to coordination and/or collaboration between two or more parties
	Cost of care	Pertaining to the cost of care
	Create value: no	Answered no to question about whether the benefits or tactics create value in ways not shown by the metrics
	Create value: uncertain	Answer uncertain to question about whether the benefits or tactics create value in ways not shown by the metrics
	Create value: yes	Answer yes to question about whether the benefits or tactics create value in ways not shown by the metrics
	Engage/Relationship	Pertaining to engagement or relationships
	Financial impacts me	Financial incentives impact the interviewee
	Future period	Pertaining to a period of time after 2015 ended
	HMO	Pertaining to a Health Maintenance Organization (HMO)
	Improve clinical outcomes	About improving/improvement of clinical outcomes or quality
	Learn: no	No learning occurred via the VBR arrangement
	Learn: yes	Yes learning occurred via the VBR arrangement
	Market share	Pertaining to market share
	Network	Pertaining to a provider network
	Not impactful	This qualifier could be applied to a benefit or tactic to designate that it did not impact the metrics
	Other	A catch-all code for important but miscellaneous information
	Problem	A problem or complaint
	Quotable Quote	A quotation that is interesting, to the point, highly representative, or memorable
	Risk stratification	Pertaining to the grouping of patients by their predicted future risk of needing inpatient care, or risk of progressing in a disease state
	Strategy	Pertaining to a strategy, or the VBR arrangement broadly

Code Groups	Code	Explanation of code
	Suggestion	Suggestions for improvement in the future
	These Patients less sick	Payer patients are less sick than other Medicare or Medicare Advantage patients
	These Patients not sicker/similar to others	Payer patients are similar in their health to other Medicare or Medicare Advantage patients
	These Patients sick level: other	Other comment about the health level of Payer patients compared with Medicare or Medicare Advantage patients
	These Patients sicker	Payer patients are sicker than other Medicare or Medicare Advantage patients
	Turnover	A comment about staff or leadership changes
	Why didn't work	Interviewee comment about why a tactic or benefit did not work to improve the metrics

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